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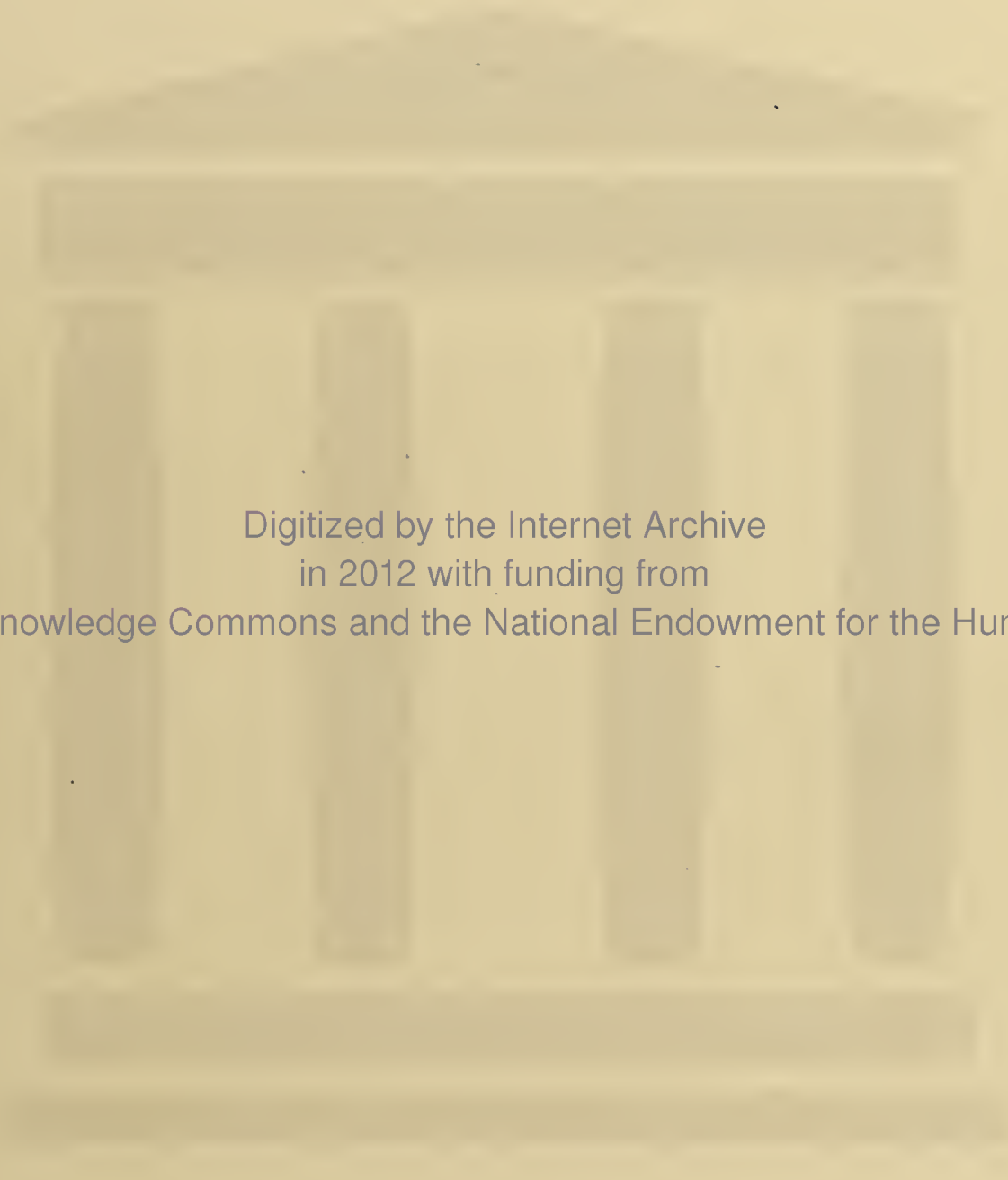

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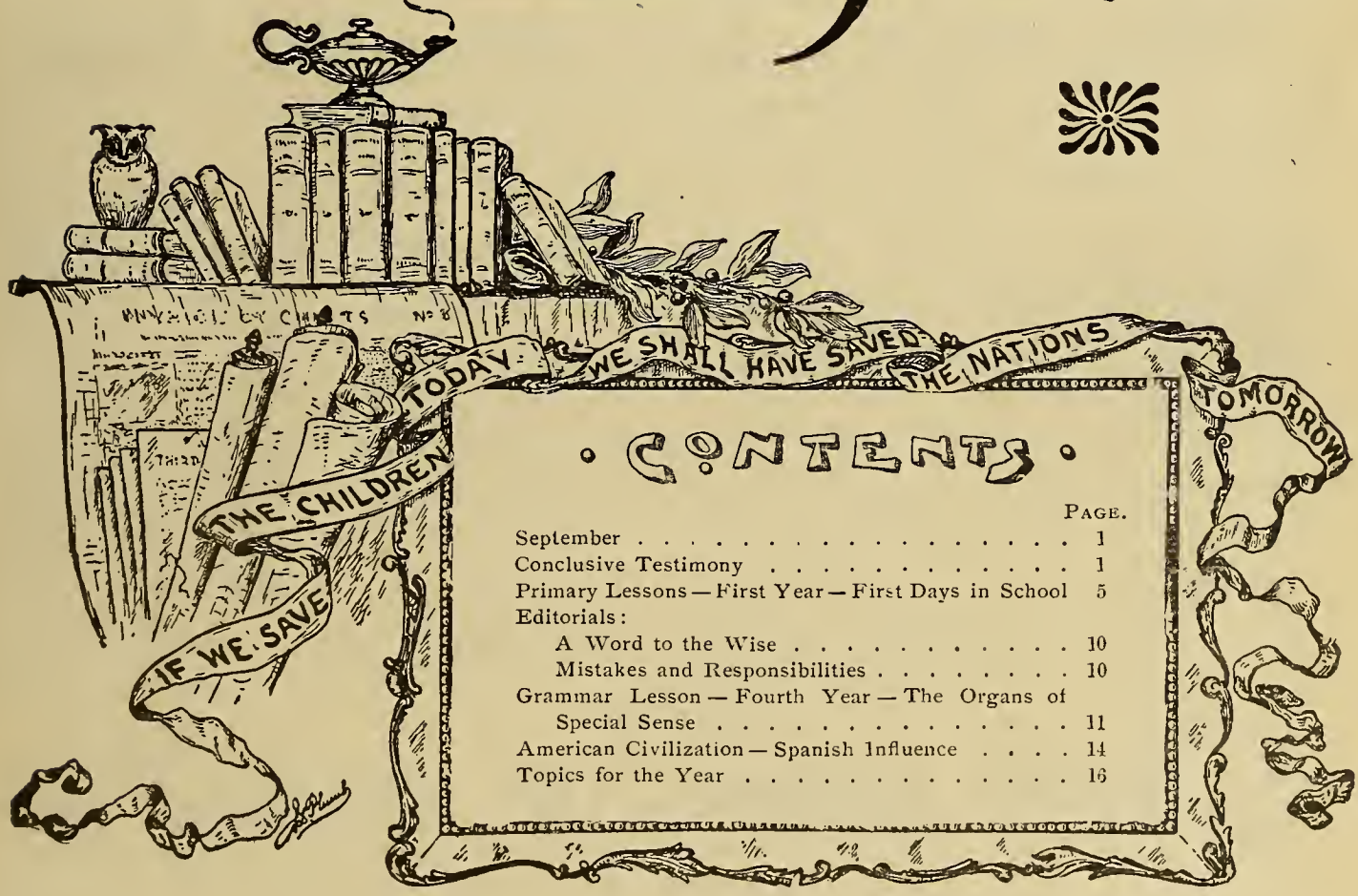

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Published at
BOSTON, MASS.
MARY H. HUNT, Editor.

Vol. VIII. No. 1.
SEPTEMBER, 1898.

Blaisdell's Physiologies

The following books fully meet the requirements of the new State laws relating to the study of the nature and effect of **alcohol and narcotics** on the human system.

CHILD'S BOOK OF HEALTH.

FOR INTRODUCTION, 30 CENTS.

HOW TO KEEP WELL.

FOR INTRODUCTION, 45 CENTS.

Our Bodies, and How We Live.

FOR INTRODUCTION, 65 CENTS.

They fill the bill better than any other books published. For the past ten years they have been favorite text-books in the lower grades of schools. Teachers like to teach them and scholars like to study them. They give just the right amount upon the effects of alcoholic drinks, tobacco, and other narcotics on the human system. They are written in an original and attractive style, giving the simplest and most practical points about every-day health.

MRS. MARY H. HUNT

ENDORSES

THIS SERIES OF BOOKS.

WE CORDIALLY INVITE YOUR CORRESPONDENCE.

GINN & COMPANY, Publishers,

BOSTON. NEW YORK. CHICAGO. ATLANTA.

The Editor,
Apr. 13, 1901.

School Physiology Journal.

Vol. VIII. *BOSTON, SEPTEMBER, 1898.* *No. 1.*

SEPTEMBER.

BENDING above the spicy woods which blaze,
Arch skies so blue they flash, and hold the sun
Immeasurably far: the waters run
Too slow, so freighted are the river ways
With gold of elms and birches from the maze
of forests. H. H.

CONCLUSIVE TESTIMONY.

RECENT attempts to discredit the textbooks used in teaching hygiene in the public schools have shown such a lack of intelligence concerning their purpose and character as well as of the movement back of them, as to call for a brief statement of the facts in the case.

During the last sixteen years the legislatures of forty-one States and the National Congress of the United States have enacted statutes requiring the study of the laws of health, including those relating to the nature and effects of alcoholic drinks and other narcotics, to be taught all pupils in all schools under state control. There are in consequence, fully 16,000,000 children of school age in this country already under temperance education laws.

Nothing is farther from the truth than the notion advanced in certain quarters that the textbooks used to impart scientific temperance instruction have been prepared by irresponsible and incompetent writers. From the first some of the ablest physicians in the land have advised as to what these books should teach, and experienced teachers have counselled as to how the subject should be graded and taught as a progressive study.

The accuracy of these indorsed physiologies is perhaps most frequently called in question because they teach plainly that

Alcohol is not a food.

Alcohol is a poison.

Moderate drinking is unsafe.

Proof is therefore called for on these three points. If it can be shown that alcohol is not a poison but a food, and that moderate drinking is safe, then our objectors are right and these textbooks are inaccurate, and should be revised to teach the children of this country that they should add alcohol to their food lists, and that tippling is safe. Such a revision would be very acceptable to dealers in alcoholic liquors, and to moderate drinkers who object to their habits being rebuked by anything taught the children in the public schools.

To prove his point, one critic quotes first from Stewart's Manual of Physiology the statement that

"In small quantities alcohol is oxidized in the body and is therefore to some extent a food substance. Alcohol in strictly moderate doses is not harmful to healthy men living and working under ordinary conditions."

There his quotation ends. He does not tell what a strictly moderate dose is, and he omits the next paragraph in which the author goes on to say:

"Recent experience goes to show that in severe and continuous exertion, coupled with exposure to all weathers, as in war and in exploring expeditions, alcohol is injurious, and it is well known that it must be avoided in mountain climbing."

What a strange food, when its advocates admit that at a time when food is most needed to repair waste of tissue and expenditure of energy, alcohol conspicuously fails to be a food at all; and that then moreover, experience proves it to be injurious.

This reminds us of the story of the bibulous Englishman who once asked the great chemist and physician, Sir Benjamin W. Richardson, if there were no conditions under which a man may drink alcoholic liquors moderately without harm. Dr. Richardson replied:

"If you are in perfect health when you begin, if you are in perfectly healthful surroundings, if your habits of eating, sleeping and exercise are faultless, if there are no demands upon you which require great exactitude of work with brain or muscle, if you are absolutely free from any and every form of anxiety, you may possibly be able for a time to throw off the effect of moderate doses of alcohol."

Evidently the human being who expects to drink alcoholic liquors with impunity needs to live somewhere outside of this work-a-day world of ours which is ever putting the utmost strain upon the ability and endurance of its inhabitants.

A still more marked instance of omitting the qualifying context occurs in a citation from Dr. Martin. A part of a sentence is selected, which as quoted reads:

"If the facts lead us to conclude, against the extremists, that it (alcohol) is to a certain extent a food—"

There the quotation is left as testimony that Dr. Martin considers alcohol a food. The statement in full reads:

"If the facts lead us to conclude against the extremists that it (alcohol) is to a certain extent a food, *it is nevertheless a dangerous one.*"

If this critic believes in the impartial verdict of science, why does he not give the findings of science impartially? Why does he withhold a part of the truth?

It is a noticeable fact that the authorities quoted by the critics do not actually claim that alcohol is by nature a food. They use such evasive terms as, "To some extent a food," "Classed technically as a food," "In a certain sense a food," and "It is beneficial, at least not injurious."

Other men have made such careful and unbiased investigations that they do not quibble. They feel warranted in holding positive convictions. Among these are world-honored authorities who say without qualification

Alcohol is Not a Food.

A professor of physiology in the University of Wurtzburg, Germany, which holds foremost rank in medicine, Dr. Adolf Fick, says concerning the alleged statement that the oxidation of alcohol proves it to be to some extent a food:

"Although the relation between the burning of alcohol and the burning of the nutritious substances in the animal organism has not been fully explained physiologically, this much is true, that alcohol taken however moderately is not to be classed among nutritious substances."

Dr. A. Baer, of the Royal Sanitary Commission of Berlin, the foremost authority on the alcohol question in Europe, says:

"Alcohol is a slow but sure working poison that robs men of their physical and mental force the more it takes the place of ordinary food."

Dr. August Smith of Schloss-Marbach, Germany, says:

"As to alcohol being an indirect material of nutrition, it is certainly nothing of the kind, since it prevents the digestion of other foods."

The British Medical Journal says:

"We have no hesitation in saying that to call alcohol a food in the present state of our knowledge of its effects is an abuse of the language. We possess no particle of satisfactory and scientific evidence to show that it is such."

If this theory as to the food value of alcohol and of the safety of its moderate use were new, opinion ought to be suspended until time and experiment have tested its validity. But such ideas have been in practice by the human family throughout the centuries.

Since pre-historic times people have supposed that alcohol is a food, not a poison, and that tippling is safe, and have acted upon the supposition. The result has been what in Europe is called the curse of alcoholism, and in America, the vice of intemperance.

Is Alcohol a Poison?

Over against the statement of the textbooks that alcohol is a poison, the critics above referred to nowhere quote an authority who distinctly says alcohol is not a poison, but as if to prove this a fact, they quote the following statement from Hoppe-Seyler's "Handbook of Chemical Analysis":

"Ethyl alcohol is found in the fresh tissues of man and animals as a constant constituent where no alcohol has been given."

No one with a knowledge of physiology can consider this proof that alcohol is not a poison, for such poisons as ptomaines may in many cases be obtained from healthy tissues; oxalic acid is formed in the body from the proteids and fat; and Bouchart has demonstrated that the normal man manufactures enough poisons each day to destroy the body if retained within it.

Why should not the textbooks teach that alcohol is a poison when such positive statements as the following are made by men whose knowledge on the subject the world respects?

"We shall have to class every substance as a poison which, on becoming mixed with the blood, causes a disturbance in the function of any organ. It is a daily experience that one unaccustomed to alcoholic beverages, taking a small glass of wine, has a dizzy sensation which means that the function of the brain has been disturbed. This substance must therefore be designated a poison."— Prof. Adolf Fick.

August Forel, M.D., Prof. of Psychiatry in the University of Zurich, says:

"Alcohol, even when diluted as in wine and beer and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration."

Dr. Lankester, a celebrated physician of London, said in a published lecture that

"Alcohol is nothing more nor less than poisonous. What is poisonous in large doses is also poisonous in small doses if regularly continued; and a popular error in regard to drinking is that of the moderate drinker who does not realize that he is taking poison day after day throughout his life."

Dr. Willard Parker, the Nestor of our American physicians, said:

"Is alcohol a poison? I reply, yes; it answers the description of a poison. It possesses an inherent, deleterious property which when introduced into the system is capable of destroying life, and it has its place with arsenic, bel adonna, prussic acid, opium, etc."

In another place Dr. Willard Parker says:

"From no definition that can be framed of a poison can alcohol be fairly shut out."

Alfred Swain Taylor, M.D., F. R. S., London, whose treatise on poisons is accepted as standard in medical jurisprudence, classes alcohol with narcotic poisons.

This testimony might be continued indefinitely if space permitted.

Moderate Drinking.

We come now to the question whether it is wrong to teach the children of this country, as the indorsed textbooks do, that tippling or moderate drinking is not safe. It certainly is wrong if such teaching has no basis in truth. In investigating the subject we face the fact that alcohol has the power, though taken in moderation, to create a progressive, uncontrollable and destructive appetite for more.

No one can deny that alcohol has this power, nor that neither the moderate nor the occasional drinker can tell how soon his craving for alcohol may become insatiable.

Dr. August Forel says of this well known power of alcohol:

"The poison (alcohol) produces an irresistible craving for its repetition and for ever larger doses."

A short time ago almost nothing could be found in the standard medical works on the alcoholic appetite. The "Abuse of Alcohol" was a favorite phrase. It was the weakness of the drinker instead of the nature of the drink that was blamed when a man failed to answer for himself the "vexed question of where legitimate use of alcohol ends and where abuse begins."—[London Lancet.

Now, in one of the most recent works on physiology this objection to moderate drinking is recognized as

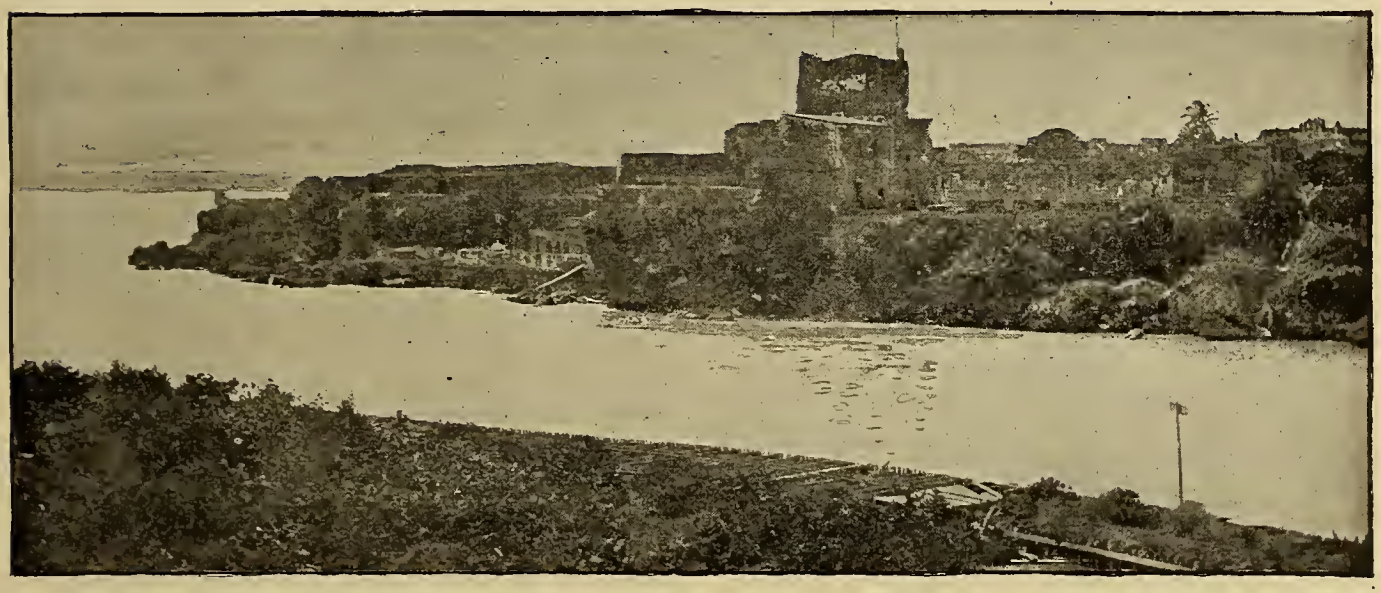
"The danger of acquiring the alcoholic appetite."—[American Textbook of Physiology.

To this scientific basis for total abstinence could be added volumes of testimony from eminent physicians who have searched back of symptoms for causes. We cite a few instances.

Eminent Authorities.

The uselessness, if not the harmfulness of even moderate doses of alcohol rests on better evidence than scientific deductions and experiments. In connection with the sanitation of armies, thousands of experiments upon large bodies of men have been made, and have led to the result that in peace and war, in every climate, in heat, cold and rain soldiers are better able to endure the fatigues of the most exhausting marches when they are not allowed any alcohol. A similar result is observed in the case of the navies. Alcohol makes no one stronger; it only deadens the feeling of fatigue. —G. Bunge, M.D., University of Basle, Switzerland.

I have long had the conviction that there is no greater evil, moral and physical, in this country than the use of alcoholic beverages. I do not mean by this that extreme indulgence which produces drunkenness. The habitual use of fermented liquors to an extent far short of what is necessary to produce that condition, and such as is quite common in all ranks of society, injures the body and diminishes the mental power to an extent which I think few people are aware of."—Sir Henry Thompson, Professor of Surgery and Pathology to the Royal College of Surgeons, London, and Surgeon-Extraordinary to the King of the Belgians.



The Oldest Castle in America. (See page 14.)

It is true that men who are favorably placed may seem to escape injury from the moderate use of strong drink. But science says that even those who are moderate drinkers live less long than those who abstain altogether.—Dr. B. W. Richardson, F. R. S., F. R. C. P.

I most unhesitatingly assert that habitual use of alcohol is abuse, even if the quantity be small."—J. W. Dowling, M.D., Prof. of Physical Diagnosis in the New York College.

For every drunkard there are fifty others who suffer from the effects of alcohol in one form or another, among whom are persons who have never been intoxicated in their lives."—Geo. Harley, M.D., F. R. S., London.

Tippling is only another expression for casual drinking, and casual drinking is the great source of misery and disease.—[London Lancet.

There is not a greater or more destructive error existing in human society than the belief that beer and wine and even distilled spirits do no harm if used in moderation, and may even support some want of the system. — N. S. Davis, M.D., LL.D., Founder and President of the National American Medical Association, and President of the International Medical Association in 1886.

The Verdict Is Rendered.

We do not need to wait until the Committee of Fifty have reported or until results already demonstrated have been repeated ad infinitum, before conclusions are recognized. The curse of alcoholism, like Sindbad's Old Man of the Sea, has hung for centuries about the neck of our humanity, dragging it down. The food value of alcohol has been on trial before the bar of experience and modern science, and the verdict is in. We submit that it classes alcohol not as a food but as a poison, and no quibbling peradventure or far fetched inference can stifle that truth. No statistician has ever disproved the proposition of Europe's greatest statesman that

"The victims of alcohol outnumber those of war, famine and pestilence combined."

What food has brought such disaster? It is neither sensible nor scientific to ignore this testimony. It can not be ignored in deciding whether alcohol is a food or a poison.

Coming generations and the public of today have a right to know the whole truth on this question. Its history can be read in the reports of the police court, the poorhouse, the prison, and in the graves dug for the hangman's victims.

Not until it can be proved, as we maintain it has not yet been proved, that alcohol is a wholesome food and not a poison; not until it can be proved that alcohol taken in moderation has not the power to create an irresistible and destructive appetite for more; not until it can be proved that no moderate drinker ever became a drunkard; not until it can be proved that physical, mental and moral degeneracy, crime, poverty, misery and madness are not results traceable to the use of alcoholic drinks, will it be right either to teach that moderate drinking is safe, or to refrain from teaching every child in the nation that in all forms of alcoholic liquors, the alcohol is an enticing and treacherous substance with the power to create a diseased appetite for more.

The unsustained cry against the temperance textbooks is the dying wail of the old theories of moderate drinking which have received their death blow at the hands of experience and modern science. The greatest scientist of the old world says that the textbooks which teach these facts are accurate, and the millions of children in this country who are studying them, will be amazed in time to come, to find that objectors to the principles they set forth should ever have arisen.

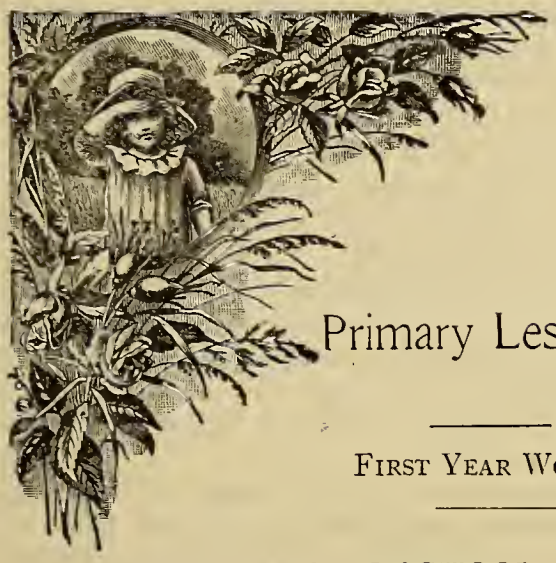
It is a harbinger of good for human progress that so many great men in science, connected with the universities of the old world, have given to the public the truth as they have found it regarding alcoholic beverages. Every true American must hope for the speedy coming of the same unbiased testimony from similar institutions in this land.

Just now the public heart is deeply moved by the descriptions of our war-scarred heroes who are being brought back to their Northern homes from Santiago and Porto Rico. To some of us whose sons are still at the front, this is more than passing sympathy.

It is heartbreaking for the father or mother who has striven to rear a son into ideal manhood to welcome him back, hollow-cheeked, fever-smitten — even though clean-souled — a physical skeleton of the strong young patriot who went out at his country's call to fight its battles for the extension of human freedom. But this pain is not comparable in intensity to that of helplessly watching while the finer sensibilities are blunted, and the nobler nature surrenders to the coarse, the brutal, the criminal possibilities of the victim of alcohol. Such careers are encouraged by the false impression that moderate drinking is harmless, and are largely due to this misconception.

When the war tocsin sounds no human power can prevent Clara Barton from speeding to the rescue of the wounded, sick and dying soldier. Neither can those who have been smitten with God's pity for alcohol's greater slaughter, be deterred in the work of its prevention through education.

Mary H. Hunt.



Primary Lessons.

First Year Work.

FIRST DAYS IN SCHOOL.

THE September day has come when closed doors will swing open for school to begin, and small footsteps will echo in the late empty halls, while a babble of childish voices arises from deserted play-grounds.

Nine o'clock strikes, and you, teacher, look down upon a sea of wondering little faces,—wondering because it is their first school day and all is new. Try to put yourself in the place of these little ones.

The yellow butterflies flitting about in the sunshine, the birds as they track the stainless blue, the brook and that free, careless rover—South wind, have been the out door companions of the happy country child. But bird, wind, and butterfly are subject to certain laws; they do not roam utterly at will, neither should the child.

What then is the law by which Nature schools her children?

Does it coincide with the relentless demand of the school room?

Nature bids young things grow. Every day should mean increase of life and consequent power, wrought through free and constant activity.

The healthy, normal child is never still during waking hours unless attracted by some object of surpassing interest. He is a running, jumping, laughing, shouting creature. His attention flits from one object to another like the butterfly in its honey-quest.

A being of wind and sun, he abhors the house-shelter unless fear drives him there for protection, or some other interested motive urges.

Yet this young thing, apparently as lawless as a bit of thistle-down, is learning most intensely. He is getting ideas first-hand from every object he touches. His senses—those primal avenues of knowledge—are thronged constantly by hurrying impressions.

His is the joy of the discoverer, the enthusiasm of artist and poet. In all history there is no page more thrilling than would be the story of the achievements of the healthy, happy child, if he could write it. It would be a medley of glowing colors and sweet sounds; of fair forms and happy experiences; of light, of music, of mystery.

Does the primary school continue this free, happy life of investigation and steady growth when the time comes for the child's faculties to have a more systematic training?

Four bare walls replace the universe. Inforced quiet, sometimes for hours, takes the place of former freedom. Tasks are imposed, apparently as remote from the child's real realm as the poles are asunder.

On this September day if you, teacher, bear these facts in mind and try to make the contrast between the school and the child's former freedom less sharp, you will be better able to help him enjoy the school and reap its fruits.

Remembering that true growth without motion is impossible, secure as much freedom as may be for these little ones.

No one will deny that protracted sitting in primary schools is a monstrous evil. What can we do to lessen it?

The first days of school life for a child call for skill and insight on the part of the teacher. First impressions which are apt to be lasting, should win and not repel the sensitive little one. Instances are not wanting in which children have formed a permanent dislike for school, which would not have occurred if the teacher had been winsome and tactful.

Essentials to the Child's Comfort.

Every child should have a seat carefully adapted to his body. The whole sole of the foot should come down squarely and rest upon the floor.

If the lowest seat in the school is still too high for the smallest pupil, a board firmly fitted over the floor between the desk-irons will give the needed support, and is better than a cricket which might be pushed aside.

The upper part of the body must be as carefully accommodated as the feet. To secure this, the desk should be low enough to allow the arms to rest upon it without straining the body from the waist up. If the desk is too low, the upper part of the body will naturally droop to rest the arms, and rounded shoulders will be encouraged. Experiment with seating the children, until the feet of each can rest firmly upon the floor, the arms on the desk, the body erect without strain.

The desk itself should be broad enough to allow the child to write and draw facing directly forward, rather than turning and facing the aisle.

If these things can be secured, you have done much to render your children comfortable.

Position.

Show the children how to sit erect, feet squarely on the floor, weight of body on posterior parts and on the balls of the feet, hands lying loosely in the lap.

The lower part of the back should be against the chair, even if the rest of the spine does not touch. Never allow the child to slide forward so that his weight rests on the ends of the spine and the heels.

Do not at first require the attention of the class more than five or ten minutes at a time, but strive to secure correct position during that time.

Show the children that the chest held high, as when we straighten up, is the active chest, and the position which we must have for exercise or anything done in a standing position; the chest drooped or relaxed is the passive chest. Encourage the active chest even in sitting.

At the close of a lesson that has been taken sitting, give some exercise that will require standing, some little gymnastic movement or a march around the room with the windows lowered for the sake of the fresh air always needed.

A brisk trot in file through the corridors, or a run about the school yard in suitable weather will chase away weariness and its sure result, restlessness. Some exercise implying entire change of position and motion, with surroundings that include fresh air, should take place at the end of every hour for the primary children.

Every period of seat work should be followed by occupation in standing position, as at the board, or some form of handwork which permits freedom of movement should be given.

If your pupils loll or fidget, it is from one of three reasons: either the air in your schoolroom is not fresh, or your period has been unduly lengthened and the children need change, or you are working unskilfully and failing to hold their attention.

The healthy, normal child, usually stands and walks properly when he enters school.

Undue confinement, improperly adjusted furniture, protracted sitting or standing, will soon induce careless habits.

Observe each child's position when he enters school, and if it be naturally correct strive to retain it by careful observation of points already mentioned.

To correct bad habits the following lessons may be of service:

We suggest for the first lesson in physiology and hygiene for primary pupils, the topic of bodily position with its wheeling, filing, marching and other changes incident to the routine of school life.

The Happy Country Child.

This topic is chosen because it seems to be most in harmony with that life from which the pupils have come, and is therefore beginning as nearly as we can with that which is to them the known. From this we can lead on to the few simple facts about the body and its care which these little ones can understand.

Sitting and Standing.

In introducing a subject to primary pupils the first step is to arouse interest and win attention. As a truth embodied in story form will ordinarily do this, that method is suggested to the teacher together with the following story to be told the children:

Bessie.

Bessie was a little girl just five years old. She was anxious to go to school but her mother said, "When you are older and can sit as Miss

Gray wishes, and listen to what she says you may go."

One day Mama's Club met at the house. Do you know what a club is? It is a company of people who meet to study, talk or have just a pleasant time.

Mama's club was a Study Club and Mrs. Tryon was coming to tell about birds.

Bessie was very anxious to go into the parlor and hear the talk.

"You will get tired, dear," said her mama.

"Oh no I won't, I love birdies, and Aunt Isabel is going to show me how to sit and listen."

SITTING.

After the ladies had come, Bessie walked quietly in and sat down in her little chair. She put her feet down on the floor—so. (Teacher illustrates.)

She sat up straight with the back of her body against the back of the seat. She dropped her hands in her lap and looked up into Mrs. Tryon's face.

Aunt Isabel had told Bessie that a child's bones are not very hard, and that they might grow in a bent and crooked way if she should twist her legs around her chair instead of putting them straight down with her feet before her. So the good little feet in their tan shoes stayed quietly in place.

Teacher—"Do you see how Bessie sat, children?

"Let us try to sit in just that way for a few moments.

"I see many of you sitting as well as Bessie did. I think you are going to listen well, too."

Mrs. Tryon told pretty stories about the birds.

She said the color of a robin's feathers makes him look as if he had on a reddish-brown bib. The little chickadee looks as if he were wearing a gray feather overcoat.

Teacher—"How many of you have ever seen a robin? Those who have, may lift their hands. How many of you have ever seen a chickadee? What did he say? Those who can tell may stand."

As the children rise and are encouraged to answer in unison, "Chickadee, chickadee," the most timid of these little students instead of being frightened, with childish pleasure will be taking the first step in school-room recitation, which may lead to reciting and demonstrating difficult problems in college or university class rooms.

"Four Bare Walls Replace the Universe."

STANDING.

Mrs. Tryon asked Bessie to stand and hold up a picture for her.

Teacher—"Shall I tell you how Bessie stood? She was as straight as a little Christmas tree. She remembered why she should stand straight, and now I'll tell you why you should.

"This part of my body over which I place my hands is the chest.

(Teacher illustrates.)

"How many of you feel something swell out? All who do, may lift hands. The lungs are the parts of our bodies with which we breathe. They are in the chest under where our hands rest. When they fill with air they swell the chest out. When the air goes out of the lungs the chest falls back.

"How many feel it? Breathe again and see."

Aunt Isabel had told Bessie that if she did not stand straight, but rounded her shoulders, her back would grow crooked. Not only is this true, but we crowd the lungs so that we can not take enough air into them.

Bessie was as quiet as a little mouse.

She did not knock against her chair or the table. See if you can sit down as she did.

Mrs. Tryon told about a bluebird. Shall I tell you about one I once saw?

Bessie.

My bluebird came in March.

The sky was gray and the earth bare and brown. It rained and was cold. Shall I tell you what he wore?

He looked as if he had on a little blue coat —blue as the sky on a pleasant day, and a brown vest—brown as the earth.

You may play that you are bluebirds and that your arms are wings. Show me how the bluebird made his wings go as he flew to the sky.

Teacher—"Now children, stand as Bessie did. That is good. Now be a flying bluebird. He sang but one sweet note—it was something like this — listen. (The teacher makes a gentle whistle.) Can you do that? Try. Please be seated."

To impress the lesson so that the little ones will naturally take the right position in sitting and standing, the class should be asked repeatedly to sit and stand as Bessie did.

Mrs. Tryon, the lady who talked about birds in Bessie's mama's parlor, said:

"No one has listened better than this little girl.

"She sits so nicely in her chair.

"She does not loll or fidget.

"When she stands she does not lean.

"She looks at me and listens and I'm sure she understands all I say."

Teacher—"From this story of Bessie and her mama's Club I think we have learned something about the right way to sit and stand.

"If I tell you a story to-morrow, how many will try to sit and stand as Bessie did? All who will may lift their hands."

Filing.

As "Order is Heaven's first law," the order of the school is one of the first things to be considered.

The ability of pupils to file to and from their seats, and in and out of the room methodically at a given signal is essential to this order and is a legitimate part of the lesson on position. It should be so presented as not to seem unlike play to little children.

Teacher—"I am going to tell you a story about a school I once knew. There were thirty children in it. When the bell rang, these children would start and run as fast as their feet could carry them. Each child wanted to be first inside the door. They crowded together in the porch and pushed and tugged.

"The larger ones trod on the smaller ones; heads got bumped, aprons and dresses torn and sometimes a child would get pushed against the wall or side of the door and be really hurt.

"I do not see how these children could be polite to one another if they pushed and crowded, do you? We should not be rough and rude with our mates any more than with older people. Ladies and gentlemen are polite and careful not to push and run against others. Every child should try to be kind and polite.

"When these children were excused from school it was the same way; each child wanted to be the first one out.

"Don't you think that must have been a noisy school?

"It was. Now we are going to have a different way, which I am sure you will like better. But first we will review what we learned yesterday about the way to sit."

After the children by repeated illustration, show they have grasped the idea of the right attitude in sitting and standing, the teacher might add, "Now, while we are standing together I will tell you how we can all leave the room without any noise or confusion.

"First, do you know your right hand? Show me the hand that holds the spoon and throws the ball. When I touch the bell, stretch out your right arms as far as you can without moving your bodies. The way your right hand points now is toward your right.

"Next, turn your heads toward the right. Now wave your right hands toward the right. Point to a picture on the wall to your right. Point to a window at the right of your seats.

"When I sound the bell once more turn softly in your seats to the right. When I strike again, turn back facing me. The third time I strike, turn and stand facing the right. You

may sit down and we will try this until we can all do it together.

"When you come out to recite I don't want you to rush along pushing and tumbling like so many kittens. I shall name each row or file from the child who has the front seat.

"Daisy's file may come first—the rest watch until your turn comes. When I strike the bell again her file may turn, stand facing the aisle, and then walk quietly out in front of me.

"Now let us see how we get to our seats. When I tap my bell you may turn and face the left. Willie will be the leader now. When I tap again file back to your seats. Stand in the middle of the aisle opposite your chairs and when I strike the bell, take your seats.

"Let us do this again, and then I'll try another file. Which will make the fewest mistakes."

In this manner the teacher with a kind face and sweet, loving voice drills her pupils day after day, until any file can come out for recitation, return, and go to any part of the room at the tap of the bell or by word of command. Such instruction will introduce order in the movements of the children, to whom unwilling constraint would have been irksome.

Marching.

At the same time the drill in filing is going on, there must be as well, directions for marching, or filing in step and time.

Teacher—"How many of you ever marched?"

Horace—"I marched with my father last Fourth of July."

Teacher—"Then Horace may tell us how."

Horace—"The band played and we all kept time with our feet."

Teacher—"Show us Horace, and keep time to my bell. Which foot comes first? Yes, the left foot. Left, right; left, right. We like to march because it is such fun to keep time.

"Who will march with Horace. Ben and George may try.

"See me. I keep the time with my feet—left, right; left, right, as if I were marching, only without leaving my place. Now let us all try it. When I tap my bell you may try it again. When I tap once more Roy's file may march to the front, across to the left, up the side aisle, across the back of the room to their places. The school may keep on marking time."

Various files may be drilled in this way, enlivened by the following story told by the teacher after the pupils are seated.

A Fourth of July Story.

Philip was Bessie's cousin. He was seven years old and had been to school a whole year.

Summer vacation had come and the Fourth of July when Miss Gray had promised them a picnic.

Philip and Bessie got up very early and ran out of doors with Philip's papa to blow their tin horns and fire off their fire-crackers.

After breakfast Philip put on his white linen suit and a red, white and blue tie. Bessie wore a white dress and a sash of red, white and blue.

They ran to the school-house where the rest of the children had gathered. Every one had a flag. How many of you like flags? When we learn to march nicely we will have some.

Philip's school marched to a grove and played there all day. They took just the same signals as you. Can you get ready to march?

One—position. Two—turn. Three—stand. Four—face. Now—left, right; left, right.

Those children carried their flags in their right hands. They did not march on their heels, they marched on the ball of the foot—the part that comes next to the toes.

As they marched they waved their flags and shouted, "Hurrah, for the Fourth of July."

Would you like to play that you are carrying flags and would you like to say, "Hurrah, for the Fourth of July?"

We will march around the room and play we are going to the picnic. Roy's file may lead.

When Philip and his friends got to the grove, they put up the flags and began to play. They swung, played see-saw, rode on donkeys and flying horses and went out on the water in boats. They had a royally good time.

At dinner they had sandwiches, cake, tarts, lemonade, bananas, strawberries and ice cream.

What do you think of that dinner?

They played all the afternoon, and at sundown marched home waving their flags and shouting, "Hurrah, for the Fourth of July."

Would you like a picnic some day? Perhaps we can have one and every child who has learned to march shall have a flag to carry.

In addition to the knowledge of how to assume right positions, the teacher should put into words three important facts for the children to learn and repeat.

These facts should be written on the board. By having them continually in sight and being repeatedly drilled on them, the pupils will soon learn to recognize the words that represent the facts they have learned, which are these:

Facts to Learn.

We must stand straight so that we can breathe enough air into our lungs.

We must not twist our legs about the chair or our bones will not grow straight and strong.

We must not push and rush when we enter or leave school, or go to and from our seats.

When right bodily attitudes have become habits, very important lessons in hygiene have been learned which will influence future life for comfort, health and consequent aiblity for good.

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" September waves his goldenrod
Along the lanes and hollows,
And saunters round the sunny fields,
A-playing with the swallows."

A WORD TO THE WISE.

THE schools this year open after a summer of greater, more prolonged and exhausting heat than has been experienced in this climate for many years, consequently both teachers and pupils may enter upon the work of the new year with something less than the maximum physical tone which should follow weeks of rest. Assign short lessons, and frequent recesses for the first two weeks. Pupils will be all the better able to cope with lessons when the cool days come if tasks are lightened now.

MISTAKES AND RESPONSIBILITIES.

THE days that have elapsed since we bade our readers goodby for their summer vacation have been among the most eventful in our national history.

The roar of battle has echoed in our homes and hearts, chilled by the news of the "pestilence that wasteth at noon-day" in the camps where our sons have waited their summons to face the foe.

These sons have never failed to meet the utmost demands of the hour. The man behind the gun, whether in the trenches on the land, or on the deck of the deadly battleship, has displayed in every emergency not only courage, but that intelligent skill which unerringly seizes the opportunity to hit the mark.

The man behind the gun, whether in camp, on the deck, or in the field, has lifted this republic in the estimation of the nations to that of a great world power which must be reckoned with hereafter, whenever tyranny puts its foot upon the neck of the oppressed.

When after deadly conflict our flag was planted on the enemy's fortifications, and their ships were sunk, those young soldiers, mother-boys, were as kind and tender to their fallen foes as they had been to tottling baby brothers and sisters in their far-away homes. They have given to the world a new lesson of dauntless courage and of gentle mercy.

More than this our soldiers, exhausted after battle and often in dire extremity, have showed themselves strong to suffer hunger and the lack of that care with which a grateful nation would have overwhelmed them had not somebody blundered.

We have not failed because as a nation we were poor in men with capacity to apply the nation's boundless resources to the needs of our heroes in hospital, camp, and on victorious battle-field. We had no navy when war was imminent, but we had in the right place men who could, as Napoleon said, "make circumstances," and the achievements of our navy in the late war command the admiration of the world. But it is most humiliating that where we had supposed ourselves as a people to be the strongest, on time to the minute, capable of large affairs, and of anticipating and providing for a great campaign, we should have so signally failed.

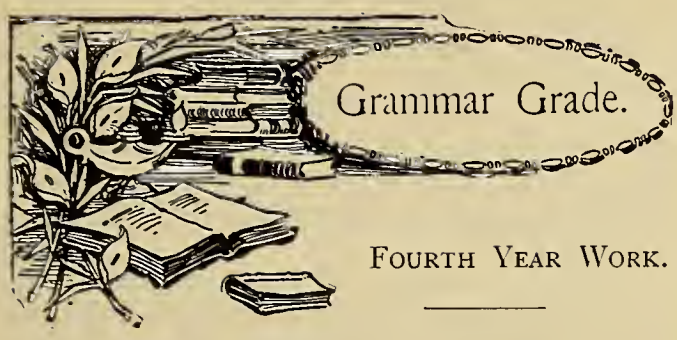
The prevalence of typhoid, malaria, and kindred filth diseases at Chickamauga and other home camps should put us to the blush. Great advance in sanitary science has been made since the days of the Civil War, and yet during the past two months we have gone on repeating the ghastly blunders that thirty-five years ago cost us many hundred times more lives than did the enemy's bullets.

Neglect of fundamental principles of hygiene which should have been corrected at once, has cost us these precious lives. Truly the freedom of Cuba has been bought with a great price. "The success of an army" somebody has said, "is a matter of equipment, supplies and transportation;" and we add, of hygiene.

Our victories have brought to us the great responsibility of teaching several millions of people to exercise that self government which constitutes freedom, and which alone makes possible a republican form of government. The task before us is greater than the one already accomplished.

Our past record with the half-civilized wards of the nation has not always been to our credit, because of the introduction of the alcoholic vice which has demoralized faster than all civilizing and Christianizing forces could build up. This barbarity must not be repeated if we are to be more successful with these new colonies than Spain has been.

The duties now facing us as a nation appeal to every teacher to make the most of her opportunity to sow seeds of that intelligent sobriety which shall bear fruit in the habits of our own people, and which through them shall influence and help Cuba, Porto Rico, Hawaii, and other far away islands of the sea to become capable of self-government.



FOURTH YEAR WORK.

THE SPECIAL SENSES.

"HEAVEN sends us ten thousand truths, but because our doors and windows are closed to them, they sit and sing awhile upon the roof and then fly away."

An acute little fellow once defined "boy" as a good thing to make a man of. He was right. Every normal child has within himself the possibilities of continual growth and expansion. Education should realize this possibility. The senses are the primal sources of knowledge. Teach every child to see, to hear, to use all his senses aright, then to think and act upon the knowledge thus obtained, and a generation of men and women fitted as never before to deal with life's emergencies will be the result.

TRAINING OF THE SENSES.

If textbooks in physiology have not been used heretofore by these pupils, some transition work is needed for the class now to begin their use. In case of the present topic we suggest beginning with an oral lesson to develop keenness and accuracy in the use of the senses. Afterward when the spirit of inquiry and individual investigation has been aroused, the pupils may be shown how to use textbooks in answering their own questions.

Select some tree like the apple, familiar to the class and ask them to tell you what they know about its size, shape, color, foliage, blossoms and fruit; then to compare it with other trees in these particulars.

Ask how they learned the facts they have just given. Most of the class will tell you that they found out by looking at an apple tree or by reading about it, or will give some other answer indicating the organ of sight as the chief source of their information. Develop this idea with them until all know that one of the ways in which we may find out about things is through our eyes. Then send one or more pupils to the board to write lists of sentences dictated by the class, showing what may be learned about apple trees through the sense of sight alone. When such facts are exhausted, ask the class in what other ways we can find out anything about apple trees besides through our eyes.

The pupils will know that much can be learned of the size, shape and texture of trees by touching them; that the blossoms and fruit may be known by the odor, and that the latter can be told also by the sense of taste.

Help them to put their knowledge of these facts into words, after which other lists showing what may be found out about apple trees by the use of these other senses, may be called for and put on the blackboard.

Ring a small bell inside your desk. Ask the class what you have just touched, and how they know it to be a bell when they have neither seen it, nor have found out anything about it through the other senses just talked about—taste, smell and touch.

Ask each member of the class to name one thing he knows by his sense of hearing which he could not find out otherwise. Then make another list for the blackboard of the answers given.

For the next day's recitation request all in the class to come prepared to give one fact they have discovered by the use of each of their senses. Then as each pupil reads his list, let the class decide which sense was used in finding out the facts thus given.

Suppose for example, the following statements are brought in next day by some one, and that the right sense has been assigned to each by the class. Select a pupil to write the sentences on the board as given, placing at the right of each the name of the sense used in determining it. Thus:

The flowers on the shelf are *red*. Sight.
The large green apple is *sour*. Taste.
John has been eating *peppermint* candy. Smell.
Chalk is *hard* and *brittle*. Feeling.
The clock *struck nine*. Hearing.

Of the other lists as many may be written on the board as time allows, or until no mistake is made by anyone in the class in giving the right sense, or in stating some fact which he knows by means of each.

PARTS OF THE SENSE-ORGANS.

At this point in the recitation take a few moments for a general review of all facts regarding the special senses which have been learned by the class in the primary grades.

This may be made a written lesson, each pupil writing on a slip of paper all he can remember of his previous study of the subject.

Allow all in the class who can think of five facts about each of the senses to write their names in the honor list on the blackboard. The pupil who writes the largest number of facts may put his list upon the board also, to be copied by those who have written less than three facts under each sense.

When you have found out by such device as this just what your class already know about this subject, you will have your starting point for

such additional truths as the pupils are able to comprehend. First, the physiology of this subject. Write on the board opposite the name of each organ of special sense the topics:

Parts we can see.
Parts we can not see.

Ask all who can give the name of one or more of such parts to write them on the board. If any parts are omitted refer the class to their textbooks to find out what they are, and show them just how to look up these points for themselves.

In talking about the eye for example, they should know before leaving the subject the names of such external parts as the

Lids,		Ball,
Brows,	Pupil,	Iris,
Lashes,		White.

The only internal parts which they need now to think about will be the nerve of sight, and that part of the brain to which this nerve leads and which helps us to see. Ask all to find what their textbooks say about the nerve of sight and what the brain has to do with it. Have these passages read aloud and talked over until all questions of the class have been brought out and answered.

Show pictures of the eye in the textbooks or on large charts, and have these reproduced by the class until the location of each part and the relation of all to the entire organ of sight is fixed in mind.

Take up the parts of each of the other organs of special sense in the same way, referring the class to their textbooks as often as possible. Show them how to find from the index or table of contents in their books the subject discussed, and allow the pupil who first finds an answer to any question asked, to give page and paragraph to the others. Only a few lessons of this kind will be needed to make your class thoroughly familiar with the use of a textbook in this study and to prepare them for independent work in the future.

Use a microscope in teaching the parts of the sense of touch. Let each member of the class examine the skin on his hand, then find out from his physiology what the sense of touch is, and how we know when we come in contact with anything.

Ask all to find how closely together the nerves of touch are placed, by pricking the back of the hand lightly with a clean pin. Let all find by experiment what parts of the body have no sense of touch; refer them to their textbooks to find the reason for this.

Ask the class also to find whether they can tell more quickly what any object is by the palm of the hand or by the back. Ask what this shows about the number of nerves in each place.

Care of the Senses.

Ask your pupils to number throughout the class by naming in the following order one of the five senses, sight, hearing, touch, smelling, taste. Give all a minute or two in which to think of as many ways as they can by which the organ assigned them is naturally protected from harm.

Ask those who have been thinking about the sense of sight to rise. Number one may then tell all he has thought of regarding the way in which the eye is kept from harm. Number two gives any additional facts which have occurred to him, and so on. The rest of the class meanwhile, may be allowed to consult their textbooks on this point for the purpose of making final corrections and additions. One pupil may then write the entire list upon the board. In this way the uses of all the parts of the eye, including the tears, will be brought out and impressed upon the minds of the class.

Then ask those who have been thinking about the sense of hearing to rise and discuss in a similar way the care of this organ, while the other members of the class criticise with the help of their open physiologies.

When the way in which each sense organ is protected and cared for by nature has been thus brought out, ask the class how we can help in this work, and thus keep our senses keen and active as long as we live. While they are thinking step to the board and write the names of the five senses as headings to five columns. Then ask all in the class as fast as they are ready with answers to the above questions to write them in the proper columns.

Direct their thinking by asking how these delicate organs may be hurt, and what is needed to protect them from injury. After exhausting their own knowledge, they should be allowed to consult their textbooks on the subject until the proper ways of caring for all of the senses have been discussed and the necessity for such care has been impressed.

Possibly no one in the class will think of naming alcohol and tobacco as among the things which hurt the special senses, and which for this reason should never be used. The attention of the class should be called to the harmfulness of these poisons in a way not to prejudice but to convince their young minds. The best plan may be that of a question. Try putting the following on the board:

Why is it not safe to drink beer or cider if we want to get the most out of our senses?

This will be likely to rouse discussion, as there will be some at least, ready to argue that beer and cider can not hurt any one. Remind all that no positive statement should be made without adding a reason for it also, and that all such deficient answers will be ruled out.

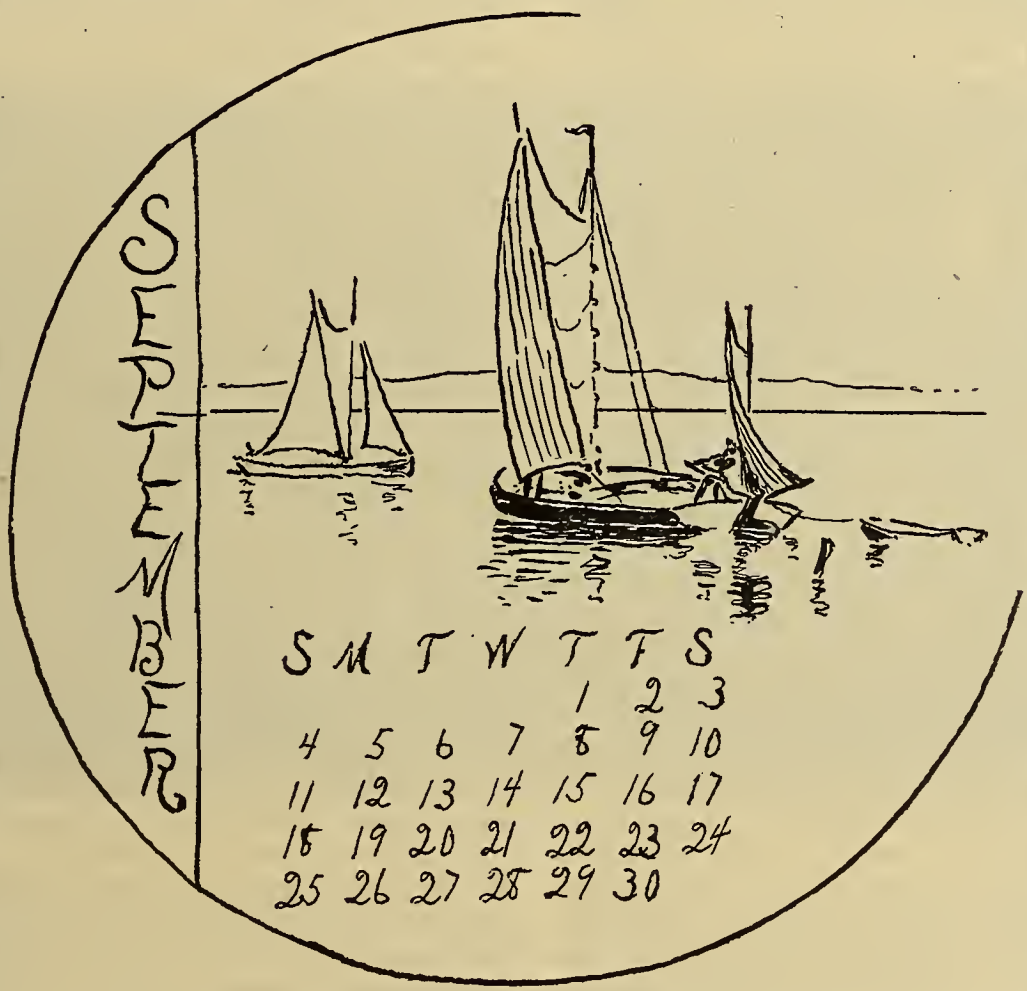
With help in expression and arrangement of their thoughts the class should finally conclude that

There is some alcohol in beer and cider.

Alcohol is a poison.

The poison alcohol has the power even in small quantities to hurt those who take it.

When these points have been brought out ask the class to turn to their textbooks and find just how alcohol may hurt the eyes, and other sense organs. Select parts of the quotations at the end of this lesson to read to them. Then ask all to close their books and write on slips of paper all the ways they can remember in which each of the senses may be harmed by even a little alcohol.



The effects of tobacco in all its forms may be brought out in a similar manner.

A good way to impress upon the minds of your class the need of alert senses in any life work they may choose and the consequent necessity of letting all forms of narcotics alone, will be to put these questions on the board for each to think about.

The answers may be written down and handed in at the close of the recitation:

What work would you like best to do when grown up?

What kind of senses will you need to succeed in this business?

What kind of senses will you be likely to have if you use alcohol or tobacco?

AUTHORITATIVE QUOTATIONS.

Effects of Alcohol on the Senses.

It takes very little alcohol to blunt appreciably the keenness of vision. He who would cultivate the art of seeing things, must entirely avoid all alcoholic beverages.—[Temperance Record.

Alcohol diminishes the acuteness of all the senses. Half a small glass of wine impairs feeling, vision, and sensibility to weight.—Chas. H. Shepard, M. D.

The use of alcohol blunts the delicate and swift perception of the physical senses.—Dr. Hingston Fox.

Tobacco and the Eyesight.

Upon the nervous system nicotine has a decided effect, the pupil often becoming dilated with consequent obscurity of vision, specks before the eyes, and sometimes deep-seated pain.—Selma Severson, M. D.

Tobacco has a bad effect on the sight, and a distinct disease of the eye is attributed to its moderate use. Many cases in which complete loss of sight has occurred, and which were formerly regarded as hopeless, are now known to be curable by making the patient abstain from tobacco.—[Dietetic and Hygienic Gazette.

It has been found that chewing is much worse than smoking in its effects upon the eye-sight, probably for the simple reason that more of the poison is thereby absorbed. The condition found in the eye in the early stages is that of extreme congestion only; but this, unless remedied at once, leads to gradually increasing disease of the optic nerve, and then blindness is absolute and beyond remedy. It is, therefore, evident that to be of any value, the treatment of disease of the eyes due to excessive smoking must be immediate, or it will probably be useless.—[Quarterly Journal of Inebriety.

AMERICAN CIVILIZATION.

Spanish Influence.

"A NATION that persistently despises and destroys those industrial and mechanical pursuits that train eye, hand and nerve to steadiness and accuracy through generations, can not prosecute successfully even its chosen vocation of war."—James C. Fernald.

Since the beginning of the late war with Spain many Americans who had thought little about the matter before, have learned to love their country, and have discovered that they were glad to make great sacrifices for her. Patriotism in one way or another is taught in all our public schools. Just how it shall be presented wisely is often a serious question. The tides of foreign immigration which have been sweeping over our land for many years have not submerged us, but the race problem is becoming more and more serious. In addition we have now the burden of directing the government for several of Spain's former dependencies.

Other countries which have tried to amalgamate a nation out of a mixed population, have encountered anarchy, revolution, and disintegration. The United States, made up of elements from the Orient and the tropics, of medieval and modern, of peasant and aristocrat, of black, white and yellow, has expanded into a broader life than any of its constituent parts.

How and why this is true becomes a fascinating study. In a series of papers for the Journal during the coming year we have space only to glance at the questions suggested, but every teacher who has to deal with race problems will be glad to think along these lines. Dr. Horace Bushnell used to say that he read very little, for if a book was worth reading it set him to thinking so earnestly that he never got through it, and if it was not worth reading he did not waste time over it. To set teachers thinking rather than to furnish them with elaborated ideas, is the object of these sketches.

During the ten numbers of the Journal this year we propose to consider the different foreign influences that have contributed to make up the America of to-day. We shall take them up somewhat in chronological order.

"America was never sought but stumbled on; when it was found it was not wanted; much of its exploration was due to a persistent effort to find a way around it, to discover a northwest or a southwest passage to India."—Prof. John B. McMasters.

Prof. Fiske says in his school history of the United States, that like Saul who went forth to seek his father's asses and found a kingdom, the mariners of the fifteenth century achieved something very different from what they were dreaming of. They set out to find new routes for trade to China and India, and discovered a new world in which to plant European civilization.

Spain was the first nation to explore this country and to colonize it. It was natural that these Spanish adventurers should take a southerly direction, for that was more nearly in the latitude of India which they hoped to find.

It was natural too, that Spain should have been the nation by whose enterprise the new continent was discovered. At that time she was one of the most powerful nations in the world and her commerce with the East was already great. She was anxious to increase it by finding a shorter way to the rich cities of eastern Asia. That part of the United States which now includes Mexico, Texas, Southern California and Florida, was explored by Spaniards, and was taken possession of by them in the name of the Spanish government. They did not stay long in any place where there seemed no prospect of obtaining gold or jewels. To secure these by force from the natives, was their motive in coming and their method of occupation.

The whole continent was before them to choose from, but they did not see its value; their greed-dimmed eyes were looking only for the shining metal. Spanish sailors skirted the whole Atlantic coast from Florida to Labrador, but "as they found neither gold nor a northwest passage the expedition was considered a failure."

Cortes in Mexico was most successful. In that country cruel methods almost accomplished the blotting out of the native races. The Spanish language and religion were introduced so thoroughly that both prevail there to-day in spite of the strong counter-influence of English-speaking Protestants in the States. The present inhabitants are largely a mixed race, descended from the Spaniards who came over with Cortes, and from the native Indians. Although they finally succeeded in gaining their independence from Spain and in becoming a republic they retain many of the customs and habits of that land. It will take generations yet for them to grow into the civilization which a republican form of government offers, although each year records a distinct advance in public sentiment in Mexico.

Colonizing just for the sake of colonizing, or exploring where there was nothing in particular to be gained from the natives by force of arms, was not encouraged by the home government. A settlement at the mouth of the James river was made by a Spaniard long before the English one at Jamestown, but his little colony was finally destroyed by privation and the attacks of Indians, and no one seemed to care.

A settlement was made however at St. Augustine in Florida, which remained proof against many hostile attacks and which has the honor of being the oldest town in the United States.

The long and desolate march of De Soto, the Spanish governor of Cuba, was considered an utter failure, though in the course of it he discovered the Mississippi river, and gained a fairly correct idea of the vast territory to the east and southeast. He had not indeed found what he wished to find—gold. In respect to its hardships, his journey resembled those of Stanley or Livingstone in Africa, but the contrast of motives is significant.

The Colorado river, and much country lying about it was discovered by Coronado, but he returned disgusted at the failure of his enterprise. Another expedition, starting in western Florida, spent eight years in the south and southwest, travelling over two thousand miles to Southern California, without accomplishing any result.

nity for other colonies coming with nobler motives to develop, undisturbed by her at least. Spanish influence is not one which spread through the warp and woof of our national life, as the English, Irish or German has done. It practically never crossed the Mexican border. It has brushed us in passing, and has left a blot on that corner of our map, but the typical American is in utter contrast to the Spaniard. Wherever they have come into contact with the more dominant Anglo-Saxon type the religion and language of Spain have left few traces. The only real influence that nation has exerted on the United States has been reactionary.

Nothing in our century has given a stronger impetus to unselfish patriotism than the uprising against Spain's inhumanity in Cuba. When

Typical Spanish Explorers.

Though Spaniards explored the continent so largely, they conquered only the southern portion inhabited by the half civilized Indians of Mexico and Southern California. These tribes were more easily subdued than the barbarous people farther north, against whom the Spanish soldiers made little headway.

Spain did not attempt to introduce European civilization in America. Her citizens forced the natives at the point of the sword to embrace the Catholic religion, took away their treasure, and withdrew with it to Madrid. It is for this reason partly, that we do not find the effect of Spanish possession in this country so prominent as that of many other nations. It was a kind of civilized piracy.

That Spain's efforts to press her claims in this country slackened when they did, toward the close of the sixteenth century, is a piece of good fortune to humanity. It gave opportu-

it looked as if the war of persecution was to become a war of extermination, the conscience of the nineteenth century American was stirred to check the progress of this medieval cruelty on the part of a people who are just where the sixteenth century and the Inquisition left them. Spain has left her impress upon America forever now, but how differently from the way she intended!

The law of development in this country has been always the survival of the fittest. Only those nations have contributed to the making of our own which brought some elements of life. Spain, with her worn-out civilization, her medieval ideas, and her isolation of intellect, could not keep pace with nineteenth century America nor assimilate modern ideas, so she has had to withdraw and withdraw, until to-day she has no foot-hold on this continent, and the mark she has left—in Mexico—is only a scar.

SUGGESTED TOPICS FOR THE YEAR.

	1st Grade.	2nd Grade.	3rd Grade.	4th Grade.	5th Grade.	6th Grade.	7th Grade.	8th Grade.	High School.
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Sept.	How to sit, stand, walk. Cigarettes.	The apple and cider. The body; its care.	Nerves; description, uses, care.	Special senses.	Tobacco and other narcotics.	Review work of fifth year, especially fermentation; drinks containing alcohol; nervous system.	Bones and joints.	Review work of seventh year, especially tobacco and other narcotics. Food; digestion.	Cell life and growth.
Oct.	How to grow. Drinks which aid growth.	What to eat and how to eat it.	Bones; aids and hindrances to their growth.	Food.	Respiration.		Tobacco and other narcotics.		Heart and circulation; respiration.
Nov.	Food. Apples or cider—which is better?	Why grapes are good and wine bad. Sense of taste.	Muscles; how alcohol and tobacco affect them.	Digestion.	The heart and circulation.	The skin; its uses and care.	Respiration.	Skin and its functions.	Digestion; absorption; assimilation.
Dec.	Right and wrong uses of grains.	Hearing. Sense of sight.	Food. The stomach.	Brain and nerves.	Fermentation. Drinks containing alcohol.	The muscles.	The heart and its circulation.	Lungs and other organs of excretion.	Special senses.
Jan.	Parts of the body; its care. The head; its parts, care.	Beer. Other bad drinks made from grains.	The blood; its appearance, uses, needs.	The skin; its uses and care.	Framework of the body.	The kidneys.	Muscles and muscular action.	Liver and other organs of secretion.	Fermentation; alcoholic appetite.
Feb.	The face and its parts. The senses; uses, care.	Sense of smell. Sense of touch. The skin.	Why we breathe. Ventilation. Tobacco.	Drinks containing alcohol.	Food.	The lungs and other organs of excretion.	Cell life and growth.	Origin and nature of alcoholic drinks.	Organs of secretion and excretion.
Mar.	Upper limbs; uses and care of each.	Tobacco and cigarettes; why harmful.	Review senses, with added facts.	Bones and joints.	Digestion.	Alcohol and other narcotics.	Food.	Organs of special sense.	Muscles.
Apr.	External parts of trunk. Grapes and wine.	Review all the senses; uses, care, training of each.	Review internal parts of body: bones; muscles; nerves.	Muscles.	The brain and nerves.	Special senses.	Digestion and assimilation.	Nervous system.	Bones.
May	Lower limbs: uses; care of each.	Review parts of the body; its food and care.	Review internal parts of body: blood; breathing; food; digestion.	Blood; appearance, uses, needs.	Review tobacco; heart and circulation; respiration.	Review all fifth grade topics.	Review muscles; the heart; respiration.	Review all seventh grade topics.	Nervous system.
June	Review of year's work.	Review alcoholic drinks and tobacco.	Review external parts of body; description, uses, care.	Review year's work.	Review food; digestion; framework of the body.	Review all sixth grade topics.	Review bones; cell life and growth.	Review all eighth grade topics.	Review year's work.

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The School Physiology Journal

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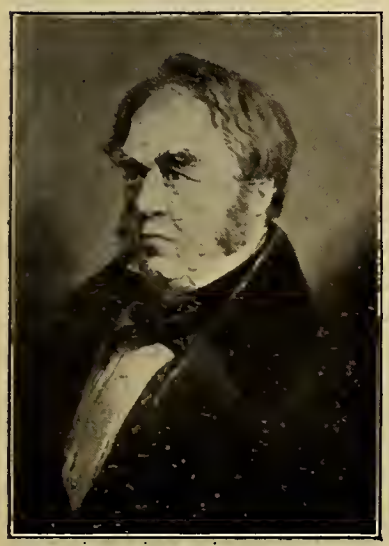


Krylof.

THE ADVANCE IN RUSSIA.

TO that part of the educational exhibit at the World's Fair which showed what the United States of America is doing through the schools for the Scientific Temperance instruction of her future citizens, there came one day a gentleman whose card showed him to be Prince Serge Wolskonsky, delegate from the Russian Empire, representing the Department of Public Instruction, and later M. Evgraf Kovalewsky, delegate from the Russian Ministry of Education.

To both these gentlemen the thought of temperance education in the public schools seemed new and impressive. The following letter shows that the influence of what they saw was not lost. Their attempts at State monoply of the sale of intoxicating drinks, if with it scientific temperance education is introduced into their public schools for all pupils, will surely lead to more rational methods as the people become too intelligent to poison themselves with alcohol in any of its forms:

ST. PETERSBURG, May, 1898.

DEAR MADAM:

I hasten to acknowledge with best thanks the regular receipt of the SCHOOL PHYSIOLOGY JOURNAL which I always read with the greatest pleasure myself, and lend to persons interested in scientific temperance instruction. At the end of the year I give this JOURNAL to the Pedagogical Library of the Department of Public Instruction.

I send you herewith two short articles for the JOURNAL.

I have already begun to work for the Parisian World's Fair, and hope to see you in Paris in 1900.

Meanwhile I beg you to accept the assurance of my highest regard.

Very sincerely yours,

EVGRAF KOVALEWSKY.

THE RUSSIAN FABLER KRYLOF.

The celebrated Russian fabler Krylof was born in Moscow in the year 1768, and died at the age of seventy-six, in the year 1844. From his childhood Krylof showed innate sagacity, and having learned to read and write, he contrived to extend his knowledge by constant reading and self-instruction, his mother being a poor officer's widow unable to give him the necessary means for education, and free schools not being in existence at that period.

At the age of ten years Krylof already assisted his family by his work as a copyist, and as a youth of fifteen he took the first steps on the literary stage by writing a comic opera. On attaining his majority Krylof became an assistant on the daily papers, and soon even founded a paper of his own, which however, was short-lived, having but one hundred and fifty subscribers.

Notwithstanding his life of privations, Krylof worked hard and gradually won a brilliant name in literature. He became personally known to the emperor, Nicholas I., who gave money toward the publication of his fables, and ordered a yearly pension to be paid him.

In the summer garden at St. Petersburg a cenotaph has been erected to his memory, and children play around this monument to the great fabler, who always dearly loved children.

Altogether Krylof wrote two hundred fables, many lines of which have grown to be popular sayings. His fables have passed through many editions. They are inserted in all Russian readers and have been translated into almost every European language. As a fable writer Krylof may be ranked with Æsop and La Fontaine.

Among his fables there is one entitled "Two Peasants." Perhaps the readers of the SCHOOL PHYSIOLOGY JOURNAL will be interested to know it. The fable is written in sprightly popular language in verse; we give it in prose.

TWO PEASANTS.

"Good morning, Friend Fadey!"

"Good morning, Friend Egor! How fare you friend, all right?"

"Oh friend, I see you ignore my great misfortune. God tried me. I have burnt my house and am a beggar now."

"How is that? A bad joke that, my friend."

"'Twas so. We were a merry Christmas party. I took a light and went to feed the horses. I own my head whirled not a little. I

set fire to my house and narrowly escaped myself. My house and all belongings were burned. And you, how are you?"

"Oh Fadey, things are not faring well with me. God's anger seems to have turned on me as well. You see I have lost my legs. It is a wonder I got up alive.

"On Christmas night too, I went into the cellar to fetch some beer, and I confess I also had drunk a glass too much, hobnobbing with my friends. Afraid of setting fire in this condition I blew the light quite out.

"But in the dark the devil pushed me so down the stairs that I have lost all likeness to a man, and from this time I am a cripple as you see."

"The fault is yours, my friends," quoth Stepan, their kinsman.

"In truth, I do not see wherein the wonder lies that you have burned your house, and that you are a cripple.

"A drunkard fares not well with light, but hardly better does he fare without."

This fable is a very eloquent accuser of intemperance. To give it three pupils are required, one for each character. It is touching to hear a little lad pronounce the last sentence, especially as Russian children often see the dreadful consequences of intemperance in their own parents and near and dear ones.

A Beneficial Reform.

Intemperance has been and is still one of the most terrible scourges of the population in Russia. For a long time the struggle against drunkenness has been almost without success, but now the young Russian tsar, Nicholas II., has issued a law which promises to bear the best results. The government is buying spirits from private distillers, and takes upon itself the rectification and sale of the same.

The sale of spirits by the government is introduced gradually in different parts of the empire; it began in January, 1895, and will be universally introduced by the year 1902. The purpose of this reform is to give the people alcoholic drinks purified of all noxious admixtures, and to do away with saloons ("kabaki") by substituting government wine-shops for them, where drinks shall not be sold otherwise than in sealed bottles.

Of course under these circumstances there will be no taking of things in pawn and no sale of drinks on credit, as has often been in the case of saloons. The sellers are not interested in the sale of the drink. It is forbidden to sell alcoholic drinks to persons already drunk and to children. The shops are shut up on holidays, during church service hours in the morning, and from a certain hour in the afternoon. This was quite different when the sale of spirits was free, and when the saloons made drunkards of the people.

In abolishing saloons where the male population of the villages was wont to assemble on holidays, as in clubs, the government has found it necessary to encourage all kinds of institutions which give intellectual entertainment to the people. In every province there has been created a special board of trustees, receiving a yearly subsidy of fifty thousand roubles from the government. Such boards establish tea-rooms, arrange popular stereoptican lectures, organize choirs, encourage popular theatres and other wholesome recreations.

Among these the work of the board of St. Petersburg, at the head of which stands the very energetic and highly-educated Prince Alexander of Oldenbourg, deserves special notice. This board has almost unlimited credit at its disposal. In 1898 it proposes to spend about seven hundred thousand roubles. Its operations date only from January 1st, 1890, but already with its assistance a magnificent popular hall and theatre are in process of construction and summer resorts for popular recreation are organized in all poor wards of the capital.

Besides this, it encourages illustrated lectures and opens tea-rooms with small museums attached for purposes of instruction, together with libraries and reading-rooms. The necessary explanations to the collections in the museums are given at certain hours. An expert choir-master is engaged to form popular choirs.

For my part, I have started the question of this board assisting in the struggle against intemperance through educational institutions. In this respect all the members of the commission appointed to examine the question will avail themselves of the precious information given in the School Physiology Journal.

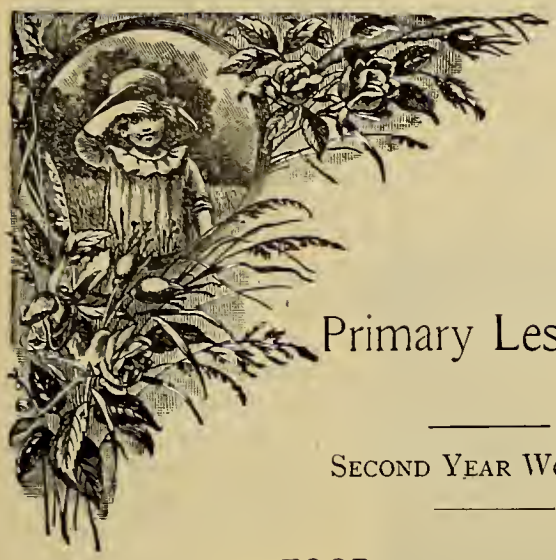
In Russian primary schools at present there is no temperance instruction, and only some notions of hygiene and of the noxious influence of narcotic substances are given in lessons on the natural sciences.

According to the observations made by the police in those provinces where the new method of selling spirits has been introduced, the number of drunken persons in the streets has decreased, as well as the number of cases of alcoholism in the hospitals. The justices of the peace also point out the fact that the number of cases of violent behavior and fights in a drunken state is also decreasing.

Now that the struggle against drunkenness has begun, Russia may hope that with the assistance of the government, the temperance societies and the schools, the terrible hydra of drink will be vanquished, at least in the approaching new century.

Meanwhile, let us hope and struggle.

E. Kovalewsky.



Primary Lessons.

Second Year Work.

FOOD.

WHO does not often see in the child over-excited by too highly spiced or immoderate food, desires of a very low kind from which it never can be freed? — Froebel.

(1)

What Food Does For Us.

The teacher who has in mind the three facts that this first lesson on food should teach might develop them somewhat as follows for second grade pupils.

Show the class a china doll with slightly dilapidated clothing. Ask a little girl to stand by you and hold it while you tell a short story.

Teacher—"This is Doll Marion, and I'm going to tell you what happened to her last week.

"My little niece took her to play in the orchard and forgot to carry her home again. The next day she went to her grandmother's for a week's visit, and yesterday her brother found Marion in a bush and brought her to me. Look at her and tell me whether she has been harmed."

Carrie—"Her clothes are mussed and look as if they had been wet, that's all."

Teacher—"Suppose Carrie had been left alone in the fields or woods for a week, with no food or shelter from the sun or rain, just as Doll Marion was, what would have happened to her?"

Ada—"She would have died like the Babes in the Wood."

Teacher—"But here is Doll Marion just as gay and smiling as ever."

Percy—"She's only a doll; she isn't alive. A doll doesn't eat."

Teacher—"Suppose Daisy does not feed her rabbits, or Donald his pony for a week, what then?"

Cecile—"They both would die."

Teacher—"What do living things need to keep them alive?"

This statement should be developed in reply and written on the board:

All living creatures must take food to keep them alive.

Teacher—"Suppose I put Carrie in a room and give her a little food—just enough to keep her alive. Will that be all that is necessary?"

Norman—"No indeed, she would be hungry all the time and she would cry."

Teacher—"If I asked her to carry a heavy basket for me when she did not have enough to eat, could she do it?"

Guy—"She'd be too weak; she could not carry it."

Teacher—"What does food do then besides keeping us alive?"

Mabel—"It makes us strong."

Teacher—"I saw a little boy who had lived in a dark alley in a great city. This child was very small, no larger than children usually are at five. I could hardly believe him when he said he was nine years old.

"He went into the country to stay with a kind farmer and his wife. There he had all the good food he wanted, and what do you think happened in two months? He had to have a new suit of clothes, although he had not worn out the one he came in. Why was this?"

Hugh—"I think he grew fast."

Teacher—"That is it; the good food and air and sunshine began to change him at once from a thin, puny child, to the size he should have been.

"Now tell me the three things we have learned in this lesson that food does for us, and I will write them on the board for us all to remember."

Food { keeps us alive.
gives us strength.
makes us grow.

(2)

What to Eat.

Show the pictures given in this lesson and ask, What is the rabbit eating? What do sheep eat, horses, ducks? Suppose Lillie or Tom went into the pasture and tried to make a dinner of grass or into the barn and munched the dry hay as the colt does, would the children thus get a good dinner? Suppose we should give the colt bread and milk or porridge, would he be satisfied?

Explain that God has provided the food needed for every living creature; and such food as each needs to build it up, to repair the waste and keep it strong. Ask the class to give instances as, What does the canary eat? the pet dog? what do the Eskimo eat?

Tell the class where the Eskimo live, and teach that they eat foods that make fat because they need such to keep them alive in the great cold.

Write on the board as memory points the subjoined answers to the following questions:

What kind of food do people in cold countries need?

People in cold countries need fatty and oily food to keep the body warm in the cold.

Ask the class what the people of India, China, Japan and other warm countries eat.

People in warm countries eat fruit, vegetables and grain, which keep the body cool against the great heat.

What do people eat in countries partly hot, partly cold?

Teach that a mixed diet is best in such countries.

Bring out by questions the facts, helping the class where necessary to right answers until they know that

In the winter we should take food that will protect the body against the cold.

Question again to bring out the fact that—

In the summer we should take less fatty food and should eat instead cooling foods: grains, vegetables, fruit and only a little meat.

Ask what foods do most to build up the body and keep it strong, supplementing the children's knowledge, if they have not been properly taught at home, until all can name such staple articles of diet as milk, bread from whole grains, fruit, vegetables and meat.

Bunny at Home.

A Good Breakfast for a Child.

Fruit — oatmeal with cream — bread — a soft boiled egg.

A Good Luncheon.

Pea or bean soup — bread — fruit, raw or stewed — very light simple cake.

A Good Dinner.

Meat — beef or mutton.

Vegetables (potatoes, beans or peas in season.

Salad — potato or some green vegetable like lettuce, dressed with a little oil and vinegar.

Dessert — fruit, stewed or raw, or a very simple pudding.

Talk over this bill of fare with the children as you put it on the board. Whenever they are able to do so, let them tell you why each article is chosen; when they can not, explain this to them.

Ask different ones to tell what they would like to have for breakfast; for luncheon; dinner. Commend all good answers given and show why they are good. Let the class dictate an entire bill of fare for a day. Make sure that it is simple and not beyond the means of the ordinary family. After corrections, allow the class to take these menus home, for the parents to see. In most cases the child will be able to tell why these articles of food are good, and thus unconsciously he will do a little home missionary work.

(3)

When We Should Eat and How Much.

Explain very simply that what we eat goes into the stomach, and that the stomach has to get the food ready to make us strong and well, and to keep us alive.

Ask the children how they would like to be called in every time they went out to play to do this or that piece of work. How many would like to be awakened in the middle of the night to work?

Explain that the stomach needs times of rest as well as other parts of the body; that if we make it work at any and every time it becomes tired, gets sick and works poorly; sometimes it refuses to work at all.

Suppose mother said, "I'll not get breakfast until ten o'clock when you are in school," would you like it?

Develop the idea of regularity in work and play. Show the children how much in life depends upon doing things at the right time and place. Make plain the idea of confusion that arises when things are done irregularly. Show that irregularity causes greater confusion in the stomach than elsewhere.

Ask when is the best time to eat after the night's sleep, and lead the class to answer:

The best time to eat in the morning is before we go to school or to work.

Why?

When else do we need to eat?

By further questions and suggestions help the class to understand and to repeat the following memory points:

In the morning the body is rested from the night's sleep and needs food to strengthen it for the work of the day.

At noon the body needs food to supply what has been used up during the morning hours.

At night we need food to supply what has been lost during the afternoon and what will be needed during the long hours of resting at night.

Teacher—"Shall we eat between meals?"

Not as a usual thing. Grown people, and children large enough to go to school who are in good health, do not often need to.

Children growing rapidly may need a little very simple food between the regular meal times.

Do not keep nibbling.

A stomach that is well treated will be a good friend for life.

Teach that because things do not distress us at the time we take them, this is no sign they are harmless. Nature does not always require her bills paid on presentation.

**"The craggy slopes are dotted
With many a feeding flock."**

AUTHORITATIVE QUOTATIONS.

Given digestible, solid food, and normal digestive power, pure water alone is all sufficient as liquid. Health, happiness and work find stimulus enough in the unsophisticated well of nature.—[London Lancet.

Alcohol is not a true food.—E. Smith, M.D., F.R.S.

Alcohol does not act as food; it does not nourish the tissues. — Lionel Beale, M.D., King's College Hospital, London.

Alcoholic liquors do not and can not fill the office of either food or drink, for taken in moderate quantities they are useless if not injurious, while in excess they interfere with the functions of natural food and drink, hence they are in every sense poisons. — William Hargreaves, M.D.

Some writers still allege that alcohol is an article of nutrition, but if that were true, it would evidently be the most unwholesome of all foods, since no other food is accused of producing such a host of fatal ailments as those charged to the account of alcohol.—Dr. C. R. Drysdale, Consulting Physician to the Metropolitan Hospital of London.

Alcohol is not a food in the true sense of the word, for a food should build up and replenish all the tissues of the body without being hurtful to any; this is not the case with alcohol.—Surgeon-Major G. F. Poynder.

Alcoholic drinks are not articles of food; they never serve as food; they do not behave in the body as foods do; they are thrown out of the body as soon as they can be got rid of by the organs which scavange the blood and keep from it impure and poisonous matter; they injure the blood and rot the tissues. — Dr. Edmunds, of the London Hospital.

Messrs. Lallemand, Perrin and Duray proved that the action of alcohol in the system resembled that of chloroform and ether; and that it could in no sense be looked upon as a true food, like starch or fat. They therefore, concluded that it could not be considered a food.—C. R. Drysdale, M.D., London.

"No, Willie dear," said his mother, "no more cakes to-night. Don't you know you can not sleep on a full stomach?"

"Well," replied Willie, "I can sleep on my back."—[Exchange.

SALT AND PEPPER.

"SHALL we add salt to our food," is a question which, while not actually dividing us into belligerent factions, as Salts and Anti-Salts, is still serious enough to deserve careful consideration. Physiological chemistry says our bodies need salt. It helps to form the acid of the gastric juice; certain substances in the blood become soluble only in its presence; the interchange of food and waste between the tissues takes place more readily because of it.

But do we not get enough salt in our food as Nature provides it without adding more? Yes, if we select and prepare our food according to Nature's plans. It is quite possible to make such a selection of food stuffs as will give us salt in the right proportions. There are certain native tribes that by instinct or environment subsist upon such foods, and they have no use or craving for salt. Travelers in those regions who adopt the native bill of fare do not require salt.

When we order our diet without regard to Nature's preparations it is well for us to understand the principles which underlie her methods. If we attempt to live on a diet of potatoes without salt we get an over proportion of potassium, a substance which extracts salt from the blood, and so reduces the amount available for the body. Rye, peas and beans are also rich in potassium. Rice can be eaten without salt, because it has a very low percentage of potassium.

But even if we do select foods requiring salt, we do not need nearly so much as is customarily used. About one-fifth of a teaspoonful of salt, according to Professor Bunge the great physiological chemist, would be sufficient to add to a diet of cereals and peas and beans, and much less would be needed for a diet of rice. Instead of this, most people take about five teaspoonfuls daily, and frequently more.

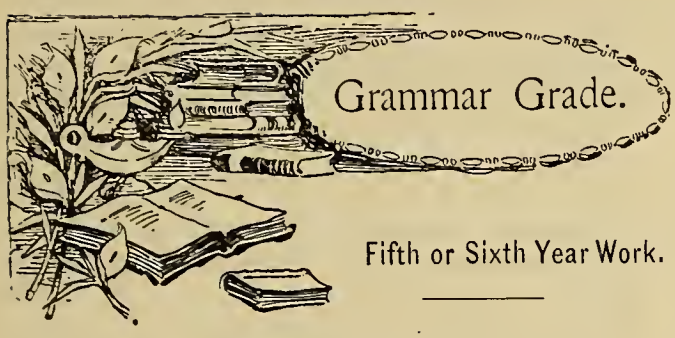
But why not eat what we like and not trouble ourselves about the proportion? Because by so doing we impose upon the kidneys, an organ which is more misused than any other.

The stomach reacts against overloading. The kidneys are obliged to let everything pass through them, and the harm done is not felt until too late to avoid the evil consequences.

Though the system may require a moderate amount of salt, the use of pepper and hot spices is without hygienic excuse. They furnish no needed material to the blood. They are simply stomach irritants. Their effects are usually spoken of as stimulating; but when we ask why we should stimulate artificially the normal work of a normal organ, we do not get a satisfactory reply. Hunger is the natural stimulant to digestive activity. The natural flavors of food judiciously selected and rightly prepared should be a sufficient appeal to the sense of taste.

We Americans, who pride ouselves on the keenness of all our senses, ought to have sufficiently fine discrimination to derive from the natural flavors of our food all the palate pleasures necessary for its digestion. The more delicate our sense of taste, the greater will be the number of flavors which we can enjoy. Thus we lose nothing. On the other hand, by indulging in hot and highly-spiced condiments we dull the sense of taste. Stronger and stronger must be the flavors in order to be perceived. Thus the foundation for dyspepsia is laid, causing in many instances doubtless, dry and inflamed conditions of the mucous membranes, for the relief of which stronger drink than water is craved.

The Dinner Hour.



RESPIRATION.

"We live most life, whoever breathes most air."

THE worst enemy of school children is said to be bad air. Pupils are rated as dull or inattentive or lazy, when the trouble really lies in lack of exercise and in poor ventilation.

Many a mother buys corsets and complexion lotions for her round-shouldered, pale-faced daughter, when what is needed is looser clothing and plenty of God's fresh air.

Parents who pride themselves on the quality and quantity of the food which they set before their children, often starve them in oxygen which is needed by the growing tissues even more imperatively than are bread and butter. The waste of the body must be got rid of and no organ does this work so continuously and elaborately as the lungs. They need then plenty of room in which to expand, and constant exercise sufficient to develop the myriad air cells of which they are composed.

Give our girls looser clothing, abundant exercise in the open air, and plenty of sleep in well ventilated rooms, and headaches and languor will give place to ruddy health and that buoyancy of spirit which is every girl's birthright as truly as her brother's.

Good red blood calls for fresh air and enough of it.

The Lesson.

When ready to assign a lesson on this topic of respiration, we suggest that the teacher read aloud to the class a translation of the lovely description in Homer's Odyssey of the princess Nausicaa as she starts out with her maidens to do the family washing. If possible show pictures of this primitive scene, and tell your pupils something of the simplicity of living in those early days when royalty had time for manual labor. Then connect with the lesson of the day, by asking what besides clothes need to be kept clean. Give opportunity for general discussion on this point and bring out reasons why the person needs frequent bathing; why dwelling houses, school buildings, churches, halls and lecture rooms should be kept perfectly clean, and why no rubbish or filth should be allowed to accumulate in house yards or on the streets.

Ask if waste matter ever accumulates inside the body, how it comes to be there, and in what manner it is disposed of. When the various excretory organs have been named, ask which of these simply throw off waste matter, and which one acts as a purifying agent as well, and is thus responsible for the internal laundry work of the body.

Some of the pupils no doubt, will soon be ready with right answers. If not, give them a clue by asking how waste particles are collected from every part of the body; then where the blood takes them to be purified.

When the lungs are recognized as the great cleansing machine of the body, put on the board the quotation from Mrs. Browning with which this lesson opens, and write just below it the following topics for study:

Organs with which we breathe.

Process of breathing.

Results of proper and improper breathing.

Effects of alcohol and tobacco upon the breathing organs.

Ventilation.

Separate the class into five divisions and assign one of these topics to each. Then request each division in turn to think of all the questions they can upon the topic assigned and state them one at a time to the class. Questions which can not be answered by any one may be written on the board as research work for the next day.

The teacher should guide this work and suggest where necessary without seeming to interfere, helping all to bring out only salient points.

For instance, the questions of the first division should include reference to the names of all organs connected with the process of respiration, the kind of material of which each is made up, reasons why this varies in the different organs, the work of each of these organs, and how they are fitted to perform it.

The questions of the second division should include reference to the different kinds of breathing, reasons why we need to breathe, and how breathing takes place. The third series of questions ought to call attention to the effects of deep and shallow breathing on the lung structure, the entire health, and on good looks.

Questions on the effects of alcohol and tobacco upon the organs of respiration should refer to the way in which these narcotics can get to the lungs, the direct injury which they may do these delicate organs, and the influence they may have in causing disease of various kinds.

When the last division is ready to ask questions upon the topic of ventilation, see that they bring out the different ways in which the

air may be poisoned, and how breathing this poisoned air may affect health; then will follow naturally, reference to the reasons for keeping the air sweet and pure in all sleeping and living rooms and in public buildings, together with suggestions as to how this may be done.

If enough unanswered questions are not obtained from the class for the next day's study, the teacher may add others under any of the topics given, and the pupils may then be requested to study the chapter on respiration in their textbooks for answers to the entire list.

The second day's recitation might begin with a complete description by the class of all the organs of respiration, beginning with the nose and ending with the lungs. As many charts as can be found to illustrate the subject should be used, together with blackboard drawings of each organ. Make sure that the class understand the reasons for the winding passage from the nose to the lungs, the function of the short hairs in the nostrils, why the lining membranes of these organs secrete moisture, why we need two ways to breathe, and which is the better way.

To show the process of breathing, ask a boy to stand where all can see him and breathe, first naturally for a minute, then so as to fill the entire lungs, while the class watch the operation and afterward describe exactly what they have seen. Then open the windows, ask all to rise, take proper position with arms at the side, head erect with chin drawn in, chest out, hips and shoulders back, then inhale and exhale slowly and deeply for several minutes.

When seats are again resumed put on the board this question and call for volunteer answers:

How does the right kind of breathing help to give one a good complexion?

This will require much thought and should not be answered hastily. Remind the class that in their answers they will need to show

How the fresh, pure air gets to the lungs.

How impure blood from all parts of the body is cleansed.

How purified blood gets to the face.

This will include a brief review of the circulation of the blood and the work of the heart, and should explain also how the air in the lung cells can get to the blood in the surrounding capillaries, and how the impurities from the blood are got rid of through the lungs.

At this point call for an explanation of the quotation previously written on the board, and emphasize still further the influence of pure air upon health by asking the class to contrast the general appearance of people who live much out of doors with that of persons whose work keeps them closely confined in shops or offices. Ask how good health can still be maintained in the latter case, and what would be a good way for such people to spend their leisure time.

Ask how valuable tools and silverware should be taken care of, what machinery needs to make it work well, and then if the class think the organs of respiration will act properly unless they too, are kept constantly polished by action.

Get the opinion of the girls as to which kind of a kitchen they would prefer to work in, a little cramped-up affair, or a large, roomy apartment with ample space in which to move about. Ask them next what their lungs would say if they could talk, about the narrow space they are often forced to occupy, and if they think too small rooms are any more comfortable inside the body than without.

Just before taking up in class the effects of alcohol and tobacco upon the breathing organs write this question on the board:

Why is the person who uses alcoholic liquors like a city which does not properly dispose of its garbage?

Before calling for answers, ask what would be the result in their own town if there were no sewerage system, and if refuse of all kinds was heaped up in back yards or thrown into the gutters. Call upon some pupil to describe camp conditions at Chickamauga or some other unhygienic army post, and to state the effect of such conditions upon the health of the soldiers quartered there.

Then ask

Where waste matter is found in the body.

What part the lungs play in its removal.

How the use of alcohol affects this work of the lungs.

When these facts have been made clear, all will realize that it is as dangerous to the health of the individual to use any substance which prevents the prompt removal of waste, as it is for a city to neglect proper sanitary precautions.

If any in the class are doubtful as to how alcoholic beverages can get from the stomach to the lungs, have this process explained in detail and traced on a large chart. Then ask what other parts of the body will also be injured if the lungs are harmed by alcohol, and take care that all understand how the whole body must be more or less poisoned by any substance which hurts the lungs sufficiently to interfere with their work.

Call for three reasons why the blood of the tobacco smoker is likely to be more poorly nourished than that of other people, and help your class to understand that

Tobacco smoke makes the air impure.

Tobacco injures the structure of the breathing organs and prevents them from taking in as much oxygen as before.

Tobacco hinders the throwing off of waste matter by the lungs.

Ask what effect this insufficient work of the lungs would be likely to have on the general health of a person, especially that of young people, and read aloud to the class the quotation from President Jordan which follows this lesson. Ask how many exceptions to this statement they can think of from their own experience and whether in their opinion, President Jordan is right or wrong.

Have the other quotations read and criticized in a similar way and remind the class that until these positive statements of physicians can be disproved by further experiment or by actual fact, they must be accepted as true.

When ready to discuss the topic of ventilation, ask the class which is worse, to be hungry for food or for fresh air, and which we could go without for a longer time. Let them tell you in this connection:

What part of the air is needed to build up the body.

Why it would not be better to get our oxygen pure instead of mixed with nitrogen.

What becomes of all the impurities which are continually being breathed into the air.

Why the supply of oxygen does not give out when people and animals have been breathing it for so many years.

Ask each pupil to describe the way in which his own home is ventilated, and to point out the advantages and disadvantages of the system of ventilation used in his school or in any other public building he may know about.

Give the class five minutes in which to write a composition on what would be found in the air of the ordinary school-room if people could see it, and how the air in such a room can be kept fit to breathe.

AUTHORITATIVE QUOTATIONS.

Alcohol Weakens the Lungs.

The blood-vessels of the lungs are easily relaxed by alcohol; and as they of all parts are most exposed to changes of heat and cold, they are readily congested when, paralyzed by the spirit, they are subjected to the effects of a sudden fall of temperature. Thus the sudden fatal congestions of the lungs which so easily befall the confirmed alcoholic during severe winter seasons.—Sir B. W. Richardson, M.D., F.R.S.

Alcohol Lowers Vitality.

From the general effect of alcohol in lowering and perverting vitality and nutrition, the lungs suffer with other tissues of the body, and several diseases of these organs are more likely to occur and to be more severe. When inflammation of the lungs attacks a free drinker, a fatal result is vastly more likely to occur than when it affects one who abstains.—A. B. Palmer, M. D.

Alcohol Keeps Waste Matter in the Body.

The presence of alcohol in the blood lessens the aggregate amount of eliminations from the living body.—N.S.Davis, M.D., LL.D.

Alcohol Lessens the Amount of Carbonic Acid Expired.

Drinking brandy, whiskey and gin is attended with a diminution of the carbonic acid expired.—[London Lancet.

Alcohol Invites Throat Disease.

Sore throat, so-called colds, passive pneumonia, glandular disturbances and ulcerative lesions are ever-present menaces which belong to the servant of the alcoholic habit.—G. B. Hope, M.D.

Alcohol and Tobacco Favor Tuberculosis.

Three cases of tuberculosis of the tonsils have been recently reported, in all of which the patients had been addicted to the very free use of tobacco and alcohol.—[London Medical Press.

Tobacco Irritates Lung Tissue.

Tobacco acts as a mechanical irritant to the mucous membrane of the bronchial tubes, and if a bronchitis be present, it maintains an irritable state of the membrane and keeps up the cough. Thus by lessening the bodily vigor the person is unable to withstand disease, and if he inherits weak lungs, may easily become a prey to tuberculosis.— Selma Severson, M.D.

Boys who have formed the cigarette habit are like wormy apples — they drop long before harvest time. They rarely make failures in after life, because they do not have any after life. The boy who begins cigarette smoking before his fifteenth year never enters the life of the world. When other boys are taking hold of the world's work he is concerned with the sexton and the undertaker.— David Starr Jordan, Pres. Leland Stanford University.

SELF GOVERNMENT.

"WERE you punished in school?" a girl of ten years was asked.

"Yes," was the rather shame-faced reply. "The teacher struck me on my mouth 'cause I whispered."

"But why did the teacher strike you for that?" was asked.

"She always strikes us when we whisper; it's against the rules."

"Does that make you stop whispering?"

"It makes me stop some," was the embarrassed reply.

"Why does it make you stop?" the questioner still further urged.

The child looked down, dug the toes of her tan shoes into the sand as she said, "'Cause I don't want her to strike me; it hurts and makes me feel bad."

The method of the savage—brute force—used with this child in school discipline, is a relic of the crudest period in education. It takes very little teaching ability to pound and beat a child; any bully can do that.

Will such a method make ideal citizens of a republic? Is there not a nobler way, one more in harmony with the civilization and obligations of our times?

First of all, no one is fit to be a public school teacher who does not recognize the destiny of the children under her tuition and treat them with consequent respect. They are the future rulers of a great republic, and none too soon can they be taught to understand the reasons for laws which they themselves are to make and to obey.

The government of the people, for the people and by the people should apply to the school as well as to the State.

If the question of whispering is under consideration, we venture to suggest for the benefit of the inexperienced teacher, that she ask the school to write a composition on the subject:

Should the scholars in this school whisper during school hours?

After the teacher has seen these papers she can decide which should be read aloud, and whether the public sentiment of her school will warrant submitting to the vote of the pupils the question,

Shall whispering be allowed?

Take care that the reasons why unlimited whispering would disturb and defeat the purposes of the school shall be fully explained, and by the pupils themselves as far as possible. Call upon the dullest scholar and the notorious whisperer to explain, each in turn, why such a plan would not work well. Then have the best answer written on the board by one of the pupils. It might be something like this:

Unlimited whispering would disturb our school work.

Ask all who agree to stand up. If the school voluntarily rises in assent to the above truth, the teacher might say,

"We will leave this sentence on the board as the opinion of our school." Then she might say, "All raise your hands who agree with me that this would be a good rule for us:

Unlimited whispering is forbidden in this school.

The hands will probably all go up as the teacher writes the above sentence on the board. Then ask all to say yes, who will join with the teacher in making it a rule. If the teacher has skilfully led up to the climax, the school will ordinarily be ready to vote yes.

A teacher who successfully carried out such a plan proposed this rule which was cheerfully adopted and obeyed:

No pupil shall whisper to another pupil who is studying, or while the teacher is conducting a recitation, or when the pupil himself ought to be studying.

Such a method or any other that appeals to the judgment, educates the conscience and leads to the exercise of self-control, is educating the noblest side of the child's nature, preparing him to meet the duties and temptations of after life, and at the same time maintaining the good order of the school.

When a school has made its own law as suggested, the pupils should be taught that law made by the intelligent and deliberate choice of the majority is sacred and binding. This will furnish a grand opportunity to impress that respect for law and obedience to it, which the rising generation so much needs to be taught.

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A JOYFUL HOME COMING.

THE many friends of our editor will rejoice with us that her son, Capt. Alfred E. Hunt, commander of Battery B of the Pennsylvania Volunteers, has returned in safety from Porto Rico, his post in the war with Spain.

The city of Pittsburgh, the home of this battery, went almost wild with joy in welcoming the return of their pet military organization without the loss of a man.

Composed of young men from the best families of one of the largest industrial centres of wealth in this country, the hardships and perils these young men heroically endured in that struggle for the liberty of another race, is a standing refutation of the charge that decline in the elements that go to make stalwart patriotism always follows increase in wealth.

When they enlisted last April they went from homes of comfort and luxury to camp on the snow-covered top of one of the Alleghany Mountains. From that cold, wet exposure they were sent to the notoriously unhygienic conditions of the semi-tropical Chickamauga camp, and after weeks of endurance there, were taken to Porto Rico on the over-crowded, stuffy cattle-ship Roumania, to camp in malarial cane-swamps, and at last to face the enemy with guns all loaded, only waiting the command to fire, when a breathless rider shouted, "The war is over! The protocol is signed!"

Hungry and with nothing to eat, they had to comfort themselves with the thought that Battery B had the distinction of having loaded the last gun on the Western hemisphere in the Spanish-American war.

Then came the time of waiting for transportation, and the unspeakable voyage home. But they all came; not one of their number was left behind to fill a soldier's grave on that foreign shore. There had been sickness in their midst, that was inevitable from their surroundings, but this battery had no "canteen," and its members were intelligent enough to understand and obey as best they could under the conditions in which they were placed, other laws of health. Unpoisoned with alcohol, they were able to resist or to throw off poisons which they could not avoid, and therefore to get well enough to come home.

We are not unmindful of the watchful care over them of that Providence which promises protection from "the arrow that flieth by day," and "the pestilence that walketh in darkness," while we do not forget that the God of Law does not save men from the consequences of broken natural law which they should know, and knowing should obey.

WAR REASONS FOR TEACHING HYGIENE.

THERE is but one dark blot in the otherwise brilliant record of our war with Spain, and that is the failure to meet the necessities of our own heroic soldiers in camp and on the field.

Without attempting to anticipate the report of the committee appointed by our President to locate the responsibility for this failure with its ghastly consequences, it is not too soon to say that these consequences furnish some lessons which public school officers and teachers should take to heart.

The statement that the volunteer often did not seem to understand so well as the regular soldier the sanitary laws he must observe punctiliously to protect himself from the diseases which have filled more graves than Mauser bullets, should lead members of every school board, every school superintendent and every teacher in this land to ask, Am I in any way responsible? Wherever these volunteers have come from public schools where the law required the study of physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, these future soldier boys should all have learned such laws of health as would have saved them from making these fatal mistakes.

The member of a school board who sees the name of a pupil from his school in the long line under the heading, "Died from Disease," can feel that he did what he could to prevent that fate, if he ordered for him and for all other pupils, good textbooks on physiology and hygiene, and assigned adequate time and place in the course of study, with examinations for this as for other branches. School superintendent and teacher may mourn for this boy without remorse if each has faithfully done his part to teach him all the laws that govern the health of his own body.

We know that the bearing of a great host of our young soldiers has shown that they have been thus taught, and we do not for one moment question that an honest examination will show that large numbers of our brave men have gone to untimely deaths in this war from pre-

ventable diseases, for which they were in no way responsible. If those diseases were preventable they should have been prevented, and knowledge of hygienic law is the first step toward such prevention.

The careless and indifferent school officers and teachers who have treated lightly their duty to the legally required study of hygiene, have been dealing in futures for their pupils who have gone to the front, where beer-drinkers have been the first to fall from exposure to tropical heat on the drill and the march, or to the fever's blight. The school should have taught them the evil power of beer, and obedience to other rules of health. The law required it. Such early implanted knowledge might have saved them.

The blunders of this war flash before our startled gaze the fact that no greater perils can face a people than those which may result from ignorance of hygienic law.

Oh, the cruel pity of neglecting this law! The graves of these fallen heroes appeal to us, the sanitary mistakes of this war appeal to us to teach every child in the land the way of life. Shall they appeal in vain?

STAY AT HOME EVENINGS.

The Youth's Companion has this valuable study: An interesting investigation has been made recently in one of our cities as to the reasons why children of equally good capacity should rank so unevenly in their studies in the schools. Pains were taken to learn from one class of fifty-five pupils enough about their habits out of school to enable judgments to be made.

The investigation showed that thirteen boys were permitted to be on the streets at night as late as half-past nine o'clock. Not one of them ranked as high as thirtieth in the class. Another grade class of fifty-five was tried in the same manner; eight boys were habitually on the streets in the evenings. Not one of them ranked as fortieth in the class. Another class of thirty-five investigated showed that six were allowed the freedom of the streets at night, and every one of them had spent two or three years passing the fourth and fifth grades. One boy of fifteen years of age had spent nine years in getting four and a half years of schooling. Investigation also showed that in these classes examined, eight-five per cent. of the girls remain at home and read good books, and about one-third only of the boys ever read at all.

"How old are you now, Cyrus?" asked a visitor. "I'm five," said the little man, with a very disgusted air. "I would have been six long ago, only my mamma keeps me in dresses!"

AMERICAN CIVILIZATION.

French Influence.

"IN determining the character of a community a hundred selected men and women are far more important than a thousand men and women taken at random."—John Fiske, referring to the French Huguenots.

The motives actuating Frenchmen to seek out and settle in this country were varied. Fisheries and the fur trade attracted some, love of adventure allured others. Still others came as exiles, driven from their homes because of the religion in which they believed. In later years many came solely to earn money which they might carry away with them. The great proportion however, came with a desire to colonize in this new land where opportunities of every kind were so much greater than in their own country.

The valley of the St. Lawrence, including all that was then known as Canada, the valleys of the Hudson and the Mississippi, were all explored and laid claim to by the French, and occupied by a series of well-selected military posts. Individual colonies were also established in Florida, Alabama, New York and elsewhere.

The names of Jacques Cartier, as discoverer of the St. Lawrence; of La Salle, dauntless explorer of the vast territory along the banks of the Mississippi; of the noble Champlain, who settled Quebec and founded Canada; and of Montcalm, who contended grandly with Wolfe on the Plains of Abraham, that "battlefield of the Celtic and the Saxon race for half a continent,"—these are names which are deeply significant in our national history.

Though France has been notably unsuccessful in colonization, her failure had not been thought of in these early days, and it was mainly to colonize that the French settlements were first made in this country.

Military posts had to be established to defend the territory which France claimed as the reward of La Salle's discovery; for she argued that to discover a river carries the right to all the land drained by it or its tributaries, thus including the watershed from the Alleghanies to the Rockies. Spain, Great Britain and the Indians were all ready to contest this claim, and only the intrepidity of such leaders as La Salle made it possible for the French to defend it as long as they did.

Along the Atlantic coast little separate bands of French, mostly Huguenots, settled, and soon identified themselves with the other colonists. In some places they were persecuted and driven out by the English or Dutch settlers.

In Nova Scotia, after the French and Indian wars which resulted in placing Canada under British rule, the French Catholic settlers were

driven out by thousands to find homes where they could. The pathos and romance of this story is familiar to us in Longfellow's Evangeline, and we first learn to love the Acadian peasants in reading the sad story of this beautiful French girl.

French settlers in this country were of two religious beliefs, and consequently of entirely different aims and purposes. There were the Catholics of France, who as explorers, military leaders or colonists, came with authority from the home government, or who as Jesuit missionaries settled in Canada and the Northwest and converted many Indians to the Catholic faith; and there were also Huguenots from France and Switzerland, many of whom had been exiled from their native land on account of their religion, persecuted and beggared. Their motives in coming to this country differed little from those of their Puritan neighbors.

Priscilla, the May-flower of Plymouth.

"Between the Huguenot and the Puritan there was no stream to bridge over. They had in their common Calvanism and love of freedom, a bond of sympathy and union that brought them into harmony as soon as their tongues had learned to speak a common language. Both had faced death from devotion to the same religious principles. Moreover they were not strangers to one another, for when the little congregation from Scrooby sought refuge in Holland, they found Leyden full of Frenchmen who had fled from their native country."

It is a recognized fact that they were among our best citizens. The shipload of French immigrants that landed at Philadelphia in 1816 and were granted a tract of land in Alabama included some of the most distinguished French names, among them Marshal Grouchy, Napoleon's evil genius at Waterloo, and other officers in Napoleon's army.

Peckett, a historian of early Alabama, writes of them:

"Immersed in the depths of the Tombigbee forest, where for several years want pressed them on all sides; cut off from their friends in France; surrounded by Choctaws on one side and the unprincipled land-squatters and thieves on the other; assailed by the venom of insects and prostrating fevers, nevertheless their native gaiety prevailed. Their evenings were spent in music, conversation and dancing. The larger portion were well educated, and all had seen much of the world. The female circle was highly interesting. They had brought with them their books, guitars, silks, parasols and ribbons, and the village in which most of them dwelt resembled at night a miniature French town."

The extent to which these French Huguenot refugees have influenced our national life and character is often little appreciated, because their settlements were scattered and their lives so unobtrusive that we lose sight of them in looking at the more rugged and dominant, but no more noble Puritan. Especially is this true in New England.

"There is a substance known to chemistry as diastase, which is an active principle in the germination of every seed, and which on being sprinkled never so sparingly over a great mass of brewer's cloudy, pasty 'mash' clears it up instantly and leaves it a sweet, pure, transparent liquid. Such an office might the introduction of the Huguenot into New England seem to have performed in dissipating the heaviness and dogged prejudice of our insular kinsmen."

Many whose names are familiar to every American are descendants of these early French settlers. The mother of Alexander Hamilton was a Huguenot. Albert Gallatin, John Jay, and the Bayards, and President Garfield through his mother, were of French descent. Peter Faneuil, the founder of Faneuil Hall, that "cradle of liberty," was a Frenchman.

Perhaps it will be a surprise to some of us to know that Priscilla, the Puritan maiden of

Plymouth, was a little French Huguenot girl. We must drop the picture of blue eyes, fair hair and fresh English complexion. Priscilla was a slender brunette, with melting dark eyes under long black lashes, and you may be sure a knot of ribbon and a furbelow or two adorned the simplicity of her Puritan garb.

Mr. Fitzpatrick, in an essay on the Huguenots of New England, says of her:

"It has always been a source of wonder that an English girl could have had the ready wit to give John Alden the tip that released him from his ambiguous wooing and herself from the dominion of the fierce little captain. How blind we were to the Gallic coquetry with which she held on to Miles till she had secured John!"

Though the influx of French Protestants into our population practically ceased after the Reformation, we still have a steady addition of French Catholics coming to the United States from Canada, where enormous numbers of the early settlers in the Northwest remained. They came from various motives. At first large numbers of them were only rovers, who came here solely to earn money and return with it to Canada.

But still others came to stay. Sober, industrious, peaceable, moral, they yet possessed the dense ignorance which the very poor in Roman Catholic countries are apt to show, and thus in our country, governed by vote of the people, they became a serious menace to the future of our institutions. They did not understand or sympathize with a republican form of government, but were content to live in squalor and keep their children out of school to work in factories and mills. Because of their methods of living and their indifference to all that makes life enjoyable for an American, they have been characterized as the "Chinese of the East."

One writer on the subject says:

"Brought up to take everything from the priest, they are weak in local spirit and personal independence. Coming here with a strange language, and amid strange scenes, they band together in clans or groups. They dislike our public schools and prefer the parochial, where their children are taught the French language and the doctrines of the Roman Catholic church. They have also been slow about becoming citizens or manifesting any deep interest in our institutions."

Prof. Daniel Pidgeon says in somewhat the same vein:

"This new flood of alien immigrants, having many excellent qualities, but without ideals, ambitions, or any due sense of the dignity of labor, is sweeping not into the great West, where contact with nature regenerates character, but into high-souled and intelligent New England, the home of pure and enlightened democracy, the very heart of America."

But he adds a saving clause:

"To make Americans of the alien races which pour in such numbers upon her shores is the acknowledged task of the pulpit, the common school and the democratic institutions of the state. None of these have any disposition to shirk the work."

And in a generation or two we find this once hopeless immigrant holding positions of responsibility and trust.

The French Canadians in our midst who were looked upon with such dismay fifteen years ago, are no longer seriously feared. They have ceased to go back to Canada in any such numbers as they come. They are here to stay and make homes. One of their representatives has said:

"We have planted our tents on these shores forever; we are bound to the republic in life and in death, wishing to leave behind us the blessed memory of men who have done their share toward the social and intellectual advancement of the people of this beloved land."

Mr. Hugo Dubuque of Fall River, one of the leaders of this race in Massachusetts and a former member of the State legislature, said on one occasion:

"You must not be surprised if one of these days you see one of these little Yankee Canucks reach the White House as President of the United States. We are not satisfied with simply furnishing the muscle which is required in the manufactories, but we desire to participate in the intellectual and political life of our adopted country."

In an article published some time ago in the Social Economist, Mr. George A. Rich says of this class of our population:

"When the French Canadian is educated he is a reader, and under the quickening spirit of American freedom he is becoming a thinker, and an independent one too. It is to the young French Canadians then, the second generation, that we are to look for the settlement of the problem which the coming of their fathers introduced."

Four years ago there were one million French Canadians in the United States, four hundred thousand of whom were in New England, one hundred thousand in New York, and the remainder scattered in every State and territory except two, but most numerously in the far West. Their children are being equipped for life by that great regenerating force — the public school; their daughters are marrying

our young citizens, and their sons are helping to fight our battles.

It is true that this country has welcomed all classes of foreigners faster than they could be made citizens.

"Their desirability as settlers is dependent on the readiness with which they may be assimilated into the industrial and political life of this country. The United States has no room for resident aliens or 'industrial vandals.'"

But this land may well be proud of the welcome she has always extended to good men seeking freedom and homes and bread. In the words of Mr. John Muir, in a recent Atlantic:

"No place is too good for good men, and still there is room. They are invited to heaven and may well be allowed in America."

INACTION THE ENEMY OF TRUTH.

In directing the forces of your mind to the discovery of new truths, you fear to go astray. You prefer to remain quietly in the opinions most generally received, whatever they may be. That is as much as to say that you should not walk beyond doors, for fear that you might stumble and break your legs. But in that case you are in the position of him whose legs are already lamed, for yours are useless to you. And for what has God given limbs to man, if not to walk with them; or given him reason, if not to make use of it? It is not error that opposes so much the progress of truth; it is indolence, obstinancy, the spirit of routine, everything that favors inaction.—TURGOT.

A Band of Huguenot Exiles.

WHERE DID IT GO?

Where did yesterday's sunset go
When it faded down the hills so slow,
And the gold grew dim and the purple light,
Like an army with banners passed from sight?
Will its flush go into the golden rod,
Its thrill to the purple aster's nod,
Its crimson fleck the maple bough,
And the autumn glory begin from now?

Deeper than flower fields sank the glow
Of the silent pageant passing slow.
It flushed all night in many a dream,
It thrilled in the folding hush of a prayer,
It glided into a poet's song,
It is setting still in a picture rare;
It is changed by the miracle none can see
To the shifting lights of a symphony;
And in resurrections of faith and hope
The glory died on the shining slope,
For it left its light on the hills and seas
That rim a thousand memories.

—W. C. GANNETT.

THE WORLD'S NEED.

After all what counts in this world is not primarily acquirement, it is not primarily scholarship, it is not primarily the thing we call talent; it is a kind of vitality, something in the man himself that is deeper than his scholarship and greater than his acquirement and more masterful than his skill. Whatever feeds the personality in you and me, whatever gives breadth, knowledge, and power to our gifts of every kind, feeds the immortal part of us.—HAMILTON W. MABIE.

As a brick fell from a carrier's hod it knocked down a Spanish flag displayed from a store front below. "That must have been an American brick," said a passer-by. "Yis," said the hod-carrier above, "but it was of Oirish descint."—[Richmond Despatch.

WHAT BALTIMORE IS DOING.

ONE of the good readers of the JOURNAL in Baltimore sends us for publication the Constitution of the Junior Good Citizen League of that city, which is the result of action taken by a committee of primary teachers in the Baltimore public schools. With perhaps slight modifications for the most advanced grades, this constitution will be found practicable for use in all public schools, and we commend its adoption to teachers elsewhere who are working to interest their pupils in that morality of living which concerns first the individual, and through him the nation.

JUNIOR GOOD CITIZEN LEAGUE.

Constitution:

Art. 1. This organization shall be known as the Junior Good Citizen League of Public School No.——, City or County, State of ———.

Art. 2. The object of this League shall be to develop good citizens among the boys and girls of our schools, by so instructing them in the dangers of evil habits, and the power of right living, that they will abstain from the use of tobacco in all its forms, from alcoholic drinks, from profanity, cruelty and impurity, and to cultivate true patriotism.

Art. 3. The officers of the league shall be a President, Vice-President, Secretary and Treasurer; Superintendent of Good Government, Superintendent of Mercy, Superintendent of Narcotics and Superintendent of Alcohol.

Art. 4. All members of the school shall be members of the League, and subject to the rules of the school. The membership may be divided into associate and active members.

Art. 5. Regular meetings shall be held weekly, during the last half hour of the school on Friday.

Art. 6. The exercises of each meeting shall embrace one subject, and be under the care of the superintendent of that department; each superintendent in turn providing for the meeting.

Badge:

National flag.

Motto:

The red is for love that will dare and do,
The blue is the sign of the brave and true,
The white with all evil and wrong shall cope,
And the silver stars are the stars of hope.

Special attention is called to the ringing words in which President Jordan denounces the cigarette habit. His statement found on page 26 of the JOURNAL should be copied upon the walls of every schoolroom in the land.

STRUGGLING WITH IDIOMS.

Our boy readers may smile at this letter, which was written to one of our great universities by a young Japanese, but it is quite possible that he who smiles would do no better in attempting to master the language of Japan:

My dear officer. Please me sirs: — I shall written you that I want your a catalogue of its university which is to be said very good in the America. I feel to learn in its school from ever so, but I can not yet. Then by this reason I am working here for my learning money. If I can get that I will gone to there. I am a painful Japanese boy who ever passed the Waseda College, governing by Count Okenna in Japan. Studying the literature, therefore, I am very reasonable boy. You will send the catalogue of your university for my thought.

Yours faithfully, ———

It is said to be a rather difficult matter to classify boys, but as this one describes himself as "Japanese," "painful" and "reasonable" he can easily be placed. — [Good Will Record.

A SONG OF AUTUMN.

Ho for the bending leaves,
Ho for the crimson leaves,
Flaming in splendor!
Season of ripened gold,
Plenty in crib and fold,
Skies with depth unfold,
Liquid and tender.

Far, like the smile of God,
See how the golden-rod
Ripples and tosses!
Yonder, a crimson vine
Trails from a bearded pine,
Thin as a thread of wine
Staining the mosses.

Autumn is here again—
Banners on hill and plain
Blazing and flying,
Hail to the amber morn,
Hail to the heaped-up corn,
Hail to the hunter's horn,
Swelling and dying!

JAMES BUCKHAM
in "The Heart of Life."

PHYSIOLOGY TOPICS FOR OCTOBER.

PRIMARY — How to grow; drinks which aid growth. What to eat and how to eat it. Bones; aids and hindrances to their growth.

INTERMEDIATE — Food. Respiration. Nervous system. Tobacco and other narcotics.

ADVANCED — Heart and circulation. Respiration.

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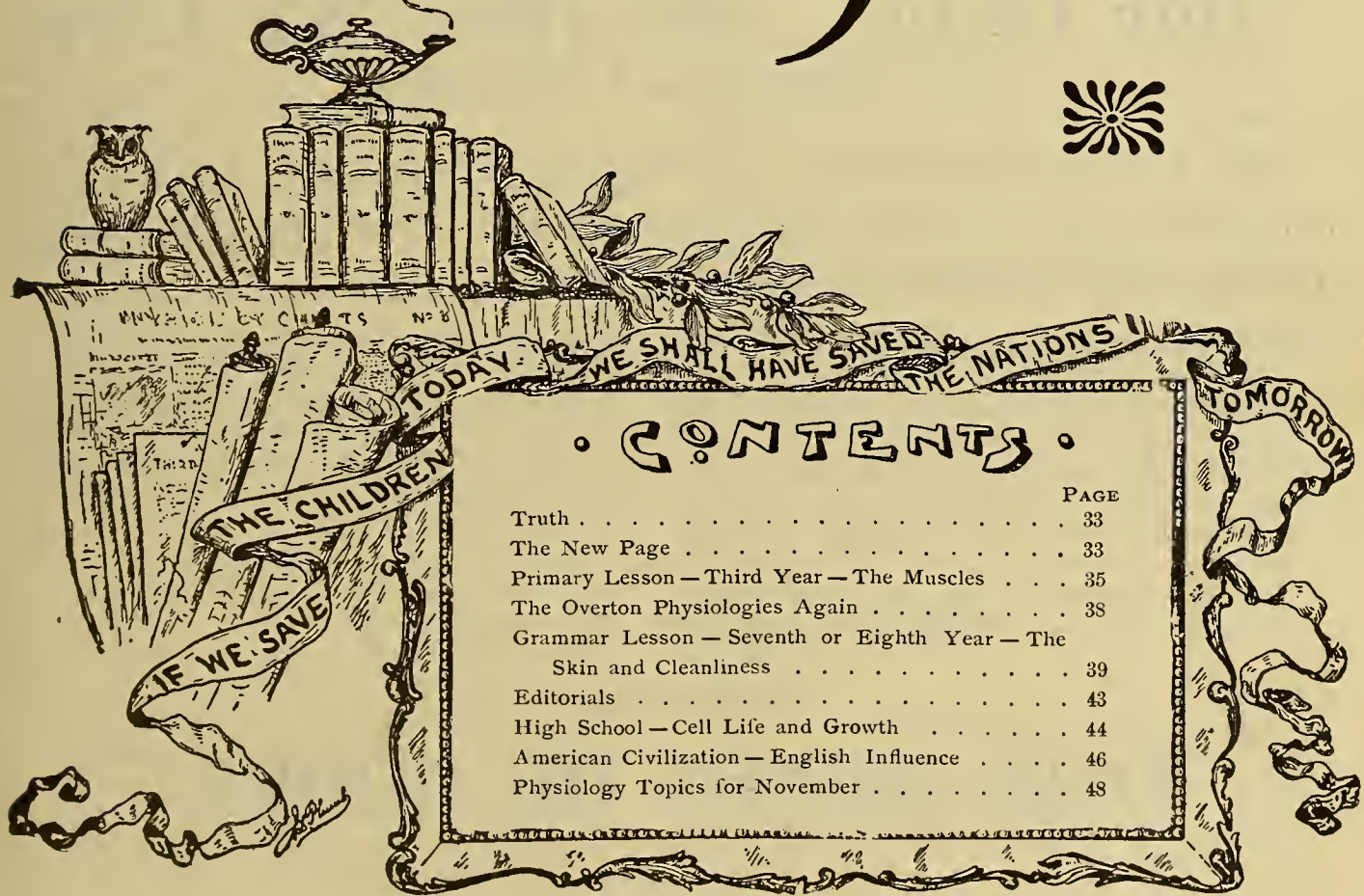
The School Physiology Journal



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Published at
Boston, Mass.
Mary H. Hunt, Editor.

Vol. VIII. No. 3.
November, 1898.

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The following books fully meet the requirements of the new State laws relating to the study of the nature and effect of **alcohol and narcotics** on the human system.

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School Physiology Journal.

Vol. VIII. *BOSTON, NOVEMBER, 1898.* *No. 3.*

TRUTH.

TRUTH is within ourselves; it takes no rise
From outward things, whate'er you may believe.
There is an inmost centre in us all,
Where truth abides in fullness; and around,
Wall upon wall, the gross flesh hems it in,
This perfect, clear perception. . . .
. . . And to know,
Rather consists in opening out a way
Whence the imprisoned splendor may escape,
Than in effecting entry for a light
Supposed to be without. —BROWNING.

THE NEW PAGE.

WE have reached a new page in our national life. At its top, written in letters of gold, is an epitome of our past history which foreshadows also our future destiny. It is signed by the Son of Man, of the increase of whose government and peace there shall be no end, and it reads

Ye have not chosen me but I have chosen you, oh ye people, to be the Messiah of liberty to the nations of the earth.

The actors in every one of the great events of our past history have been led on to results larger than they could anticipate or would have dared to undertake, showing that to them indeed had come the message, "Ye have not chosen me but I have chosen you."

Columbus could not turn back at the threats of mutinous sailors for humanity's mighty future bade him, Sail on! Sail on! A new order of life of which he had no conception was to be developed and needed a new continent for its arena. When a deed is to be done for freedom, neither fear nor cupidity can hold it back.

For more than one hundred years Spain and France tried in vain to settle what is now the United States of America, but he who bade Columbus sail on, had purposes for this country that could not be accomplished by those Latin races. Not until bands of Anglo-Saxons came, driven across the ocean in search of liberty to worship God as they desired, could a permanent settlement be effected. But even these Pilgrims had not the faintest idea that they were chosen to be the nucleus of a great nation. Religious liberty in a new world away from tyranny was what they sought for themselves and their children; the thought of political freedom from the King of England had not yet dawned upon them.

A hundred years later their descendants did not dream of becoming a separate nation when they demanded a voice in deciding what taxes they should pay to England's King. They too were called to a larger purpose than they could at first comprehend.

We entered the civil war to preserve the Union unbroken, but defeat followed in the wake of our armies until Abraham Lincoln had signed the emancipation proclamation, and the blot of human chattel slavery was wiped from the escutcheon of a people called to be the Messiah of liberty to the nations of the earth. When that was achieved, victory perched upon our banners, and now in the dear old flag not a star is lacking from its field of azure blue.

We have ever been called to scale heights we would not have dared ascend if we had not been driven by an unseen purpose we could not resist.

With such a past we may well ask with bated breath: What will the future write on this new page of our national history? The calamity howlers tell us that it is to be blackened with the story of defeat and disaster to our free institutions. This dismal forecast should not surprise us, for that class of writers has always prophesied evil at every new turn in our national life.

Last April we began fighting for a chance to feed the starving reconcentrados, and to give Cuba self-government. The reconcentrados are no more; our flag floats over Cuba. How long it may take to teach her people self-government, time alone can tell. Porto Rico and Hawaii are territories of the United States, and the Philippines—barbaric islands in the Orient—loom above our horizon asking for the protection of our flag and its guarantee of a safe government.

The victories that have crowned our arms have made us what we had no thought of seeking to be, an acknowledged world-power, with increased responsibilities which have come to us step by step, and which we can no more shirk now than could our fathers their duty in the past.

One thing which we may be sure will be written near the top of this new page in our history is the anathema maranatha of the American people, pronounced upon the man who, having been put in a place of public trust, forgetful of the public good, shall prostitute that place to selfish ends. Men of that type have corrupted our municipal governments; they have defrauded the people at election; they have connived to put unworthy men in our state and

national councils, and otherwise have put us to the blush. This we have borne with the conservative patience that characterizes the American people who seem to think such evils will right themselves in time. But the condition of our victorious army returned from Santiago on stretchers, of our home camps and hospitals, has shown a trifling with the young life of this nation that has roused a fire in the hearts of the people the self-seeking politician may well tremble to face.

Civil service reform hereafter will have a new meaning to the people of this country. The hero of the future whom the people will delight to honor with place and responsibility, will be the man of sterling honesty in public affairs, and loyal to duties entrusted to him by his fellow citizens. The training of our schools should tend strongly to develop this type of character. Teach the children in all our public schools to abhor the traitor to his country, to his city, town or home, and that faithlessness to public trust is treason; and a noble host of young patriots of the honest type will come forth to take the places of the self-seeking, truckling politician.

The nation that is called to be the Messiah of liberty to other peoples must itself be free from the slavery of alcohol. Therefore we may confidently expect that a victorious war against alcoholic drinks will be recorded on this new page of our history. With every lesson in temperance physiology faithfully and impressively taught, the teacher is furnishing ammunition for this winning battle and likewise is drilling its soldiers. The teacher is called to be the evangel of this liberty, not only for his own pupils, but for the inhabitants of the islands of the sea who are coming under the protection of our flag.

INDIAN SUMMER.

These are the days when birds come back —
A very few, a bird or two —
To take a backward look.

These are the days when skies put on
The old, old sophistries of June —
A blue and gold mistake.

Oh, fraud that cannot cheat the bee,
Almost thy plausibility
Induces my belief.

Till ranks of seeds their witness bear,
And softly through the altered air
Hurries a timid leaf!

Oh, sacrament of summer days!
Oh, last communion in the haze!
Permit a child to join.

— Emily Dickinson.

"Earth's crammed with Heaven,
And every common bush afire with God;
But only he who sees takes off his shoes."

WHAT EXPERTS SAY.

Essentials to Human Life.

Healthful nourishment, good fresh air and plenty of it, and out-door exercise are three essentials to human life which should never be neglected.—Mary H. Hunt.

How to Strengthen Muscle.

Exercise develops and tones up muscle, thus increasing the heart's action and causing the lungs to expand and send richer food to the brain. Manual labor and exercise should be wisely interspersed with study. Physical culture will give our boys and girls more grace and finer physiques. Twelve of the dullest boys in a school, after a course of physical training increased their class rank from 41 per cent. to 74 per cent.—Charles E. Winslow, M. D.

Alcohol Weakens Muscle.

Modern trainers recognize the fact that the power of sustained exertion and resistance to fatigue is best promoted by abstaining from alcohol.—Charles H. Shepard, M. D.

Alcohol Changes Muscle to Fat.

The heart and other organs are injured by alcohol. . . . The muscular fibre of the heart is replaced by fatty cells. . . . There is always danger of the heart failing to do its work, for alcohol has made it inefficient. — G. H. McMichael, M. D.

Alcohol Stunts Growth.

No one who is addicted to the chronic use of alcohol possesses a healthy body.—H. J. Hall, M. D.

Alcohol Induces Idleness.

Alcohol makes men indolent, indisposed to any exertion.—G. Bunge, M. D., Basle.

Alcohol Relaxes Nerve Control.

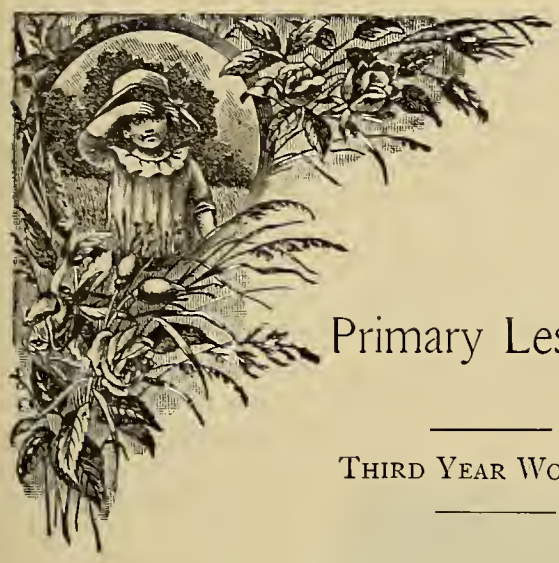
Alcohol is a paralyzer of all the vital functions. In the concentration which the strong wines possess it even kills the lower forms of life.—J. Gaule, M. D., Zurich.

Alcohol Reduces Strength.

Troops endure fatigue and extremes of climate better if alcohol is altogether abstained from.—[Journal of Hygiene.

Alcohol Lowers Working Power.

Alcohol has an injurious effect on an unwearied muscle, and manifestly diminishes the quantity of work produced. On the other hand the sensation of fatigue is lessened by the use of alcohol and work consequently appears easier.—Prof. E. Destrée, M. D., Brussels.



Primary Lesson.

THIRD YEAR WORK.

THE MUSCLES.

A familiar street car advertisement reads:

"The strength of a nation is in the health of its people.

———'s lager makes you strong."

Robust citizens are indeed the backbone of a nation, but poisonous beverages never furnish the vital elements to make it. To develop bone and nerve and muscle, the best foods are needed, and alcohol is not a food.

Teach the children what makes good muscle, and how to develop it to the highest point of efficiency. Then they will not be deceived by falsehood on this subject, no matter how speciously proclaimed.

What Muscle Does.

Have ready on the platform a weight of some kind, about as heavy as the average child in the room, and ask some of the strongest children to try to lift it. See that no one strains himself in the attempt, which should last but a moment, and is intended only to show how heavy it is. Then tell the class that each one of them is really lifting as much every time he runs or jumps or takes a step.

Teacher—"This morning we are to talk about the parts of our bodies which are strong enough to do all this work. You may stand while we find out what they are.

"First let us see what moves the arm. Take hold of your right arm below the shoulder. Now bend the elbow as far as you can and tell me what you feel."

This experiment may be repeated several times with the class until all find that however slowly the arm is lifted, the fleshy part always swells up and then stretches out again as it moves back and forth.

Teacher—"Find the part of you that moves your fingers, your toes, the upper leg, the lower. Watch me as I turn my head from side to side. Where is the part which does the work for me?"

Some of the class may now be able to give the name of this organ. If not, write on the board

The muscles are those parts of the body which help it move.

Teacher—"We have learned that muscles help to move the different parts of the body. What different motions can we make? Let us find out. George may come up to the platform and move his head in just as many ways as he can. He will do this very slowly while the rest of you write down all the motions he makes. Who will have the longest list?"

Other children in turn may be asked to illustrate the different movements of the face, arm, hand, leg, foot and body while the class either write what they see or describe each motion orally.

Show the class by movements of the hand or arm that every action has its own set of muscles, and that the muscles usually work in pairs, one stretching out while the other swells up.

Teacher—"Here is a picture which shows many of the muscles. Tell me all the different shapes you can see, and what each muscle is fastened to."

Let each member of the class select a muscle from as large a chart as can be obtained, then describe its shape and show its points of attachment. Explain the reasons for the difference in size and appearance of the muscles, and finally ask the class to prepare written statements of what they have just learned. The best paper may be copied on the board. It should show such facts as these:

Muscles are of many different shapes and sizes because they have different work to do.

The muscles of the legs and arms are long and rather slender, those of the back are broad and flat, the muscles of the mouth are round.

Most of the muscles are fastened at the ends to bones. When they move they pull the bones toward each other.

The muscles that move the eyes, and those we use when we whistle are not fastened to bones.

The muscles in the face help us to smile, laugh, wink, frown, and to look cross or pleasant.

No part of the body can move without the muscles.

What Muscle Is.

Teacher—"We know how the outside parts of the body look, and what some of the parts inside look like, such as the blood and bones. Who has ever seen a muscle and can tell about it?"

If no one answers tell the class that muscle is lean meat.

Have ready a piece of boiled corned beef. With a large needle, separate it into as small fibres as possible, and pass it about for all to examine. If a microscope can be had, let the class look through this at a piece of the meat. Call upon different ones to describe what they see, and as they do so write on the board this summary:

Muscle is lean meat.
It is made up of many little fibres.
Each fibre is wrapped up in a thin skin or membrane.
These fibres are very strong.

Teacher—"What else do you see in this piece of meat besides muscle?

"Tell me about some animal which has more fat than muscle."

Talk over with the class the difference between swine and dogs. Ask which have more fat; more muscle. Which can run faster and have more strength and power of endurance? What muscles are very strong in birds? in the race horse? why?

Show that some fat is necessary to protect the body and keep it warm, but that muscle is needed to give strength. Write on the board the statement:

We need plenty of good hard muscle to make us strong for work and play.

"How young birds learn to fly."

What Makes Good Muscle?

Teacher—"How do we get this kind of muscle? A baby's arm is weak and has almost none at first. How does he get strength enough as he grows older to row a boat or chop down trees?"

Help the class to think of the different ways in which healthy muscle is made. Show the picture of the swallows given in this lesson, and ask how the young birds learn to fly and what develops their muscles.

Ask each one to name a strong bird or animal and tell what makes him strong, until all know that muscle gives strength.

Teacher—"Ralph, is the muscle in your right arm hard or soft? Try the muscle of every right arm in the class. What do you find?"

Ralph—"Only a few of the girls have hard muscles, but most of the boys have. Why do they?"

Teacher—"What do you boys do outside of school hours? What do the girls do? Now try to answer your own question."

Ralph—"Boys have more muscle than girls because they exercise more and do harder work. Girls sit in the house too much."

Teacher—"Let me tell you a story about

Nelly's Doctors.

"Nelly isn't well enough to be in school," her mother told me when I first saw her; she does not get up until ten o'clock and she has no appetite.

"She eats nothing for breakfast but hot rolls and coffee, and she cares little about dinner except dessert."

"What time does she go to bed?" I asked.

"Usually between ten and eleven; she can't sleep early in the evening."

Just then Nelly came in. She was pale and listless.

"Let's go skating," said her big rosy-cheeked brother.

"Oh dear, no," Nelly answered with a shiver, "it's too cold."

"Who wants to wipe the dishes for me?" called mother's cheery voice.

"My head aches," whined Nelly. So she spent the afternoon on the sofa or in a rocking chair by the window reading stories and nibbling chocolates, instead of working and playing like other children.

It was a long time before I saw Nelly again, but last summer when I was going through a bit of woodland, I heard two or three quick barks. Then a frisky little dog sprang into view, followed by a young girl holding a bunch of flowers just beyond his reach. She was bareheaded and looked the picture of health with

her fresh, clear complexion, and her fluffy yellow hair floating on the wind.

"Why, it's Nelly," I said when she came a little nearer. "How well you look, my dear. What have you been doing to yourself?"

She gave a merry little laugh and said, "Father has been trying some new doctors this summer. Shall I tell you who they are?"

"Please do," I said. So she began.

"The first one is Doctor Sunshine, and I have him four hours a day. Then there is Doctor Fresh Air who stays with me all the time, Doctor Three Meals who comes every day and brings his pellets with him, Doctor Housework who helps me do lots of things, Doctor Exercise who cures my headaches, and ever so many others who come every day and never charge a cent. But Doctor Spring is the very best of all. Here Spring, shake hands with Miss Carey." And the dainty brown and white dog who had been dancing all about us and who wanted to speak but couldn't, gravely sat up and put out his paw.

"Dr. Spring is the very best of all."

"But Nelly, where are all the aches and pains and the pale face you used to have?"

"Oh, my doctors have cured them. That's what doctors are for, isn't it?" she said with a roguish little laugh. "Just feel my muscle. Hal says it's most as hard as his," and a well-rounded little arm with more than a suspicion of tan on it was held out for my inspection.

"Well, well," I said, "this is truly wonderful. I shall have to tell my boys and girls about your doctors when I go back to school. I'm afraid some of them need the same prescriptions."

Teacher—"Gertrude may write the name of Nelly's doctors on the board. Tell me what you think each prescribed.

"How many other doctors can you think of who cure weak muscles? Each one may find a set of muscles on the chart and name a good doctor for them. Write the doctors' names on the board. I move that we adopt them all as our family physicians. What do you say? It will not do to take one or two and leave the rest out because they don't like to do each other's work, and some of our muscles might not get any care at all.

What Hurts Muscle.

"There are two things that hurt our muscles so much that even these good doctors can not always cure them. Do you know what they are?"

If the class can not answer, tell them some of the effects of alcoholic drinks and tobacco upon muscle without giving the names of these poisons. Write them on the board, perhaps in this way:

———makes the muscles weak and flabby.

———changes muscle to fat.

———lessens or destroys the power of motion.

———stunts the growth of the muscles.

———makes the muscles unsteady in their movements.

Ask the class to copy these statements and fill in the blank spaces for their next recitation, getting help if necessary at home or from older pupils.

Then ask why men and boys in training for football or other contests are not allowed to drink beer or smoke. After right answers have been given and the fact has been brought out that both beer and tobacco contain a poison, put this question on the board:

If the muscles of an athlete are injured by the use of beer and tobacco, how will these poisons be likely to affect the muscles of growing girls and boys?

Teachers will find authoritative statements regarding the hygiene of the muscles, as well as the effects of alcoholic beverages upon these organs, on page 34 of the JOURNAL.

THE OVERTON PHYSIOLOGIES AGAIN.

IN the JOURNAL for June, 1898, a criticism of the Overton Advanced Physiology was published. The author cleverly took advantage of this review by getting out another edition almost immediately in which he corrected or modified some of the more obvious errors referred to, thus giving one who had not seen both books, the idea that our criticisms were misapplied. To correct this misconception we again refer to the matter.

Briefly stated, the faults of the new edition are as follows:

1. It abounds in sweeping and superlative statements that are frequently ridiculous. The author says, page 11, "All the cells of all the parts are obedient servants of the mind," which if true would enable man to stop the beating of his heart, interfere with the processes of digestion and respiration, or forbid the nerves' reporting pain to the brain. The author still says, page 114, that "every part of the animal is used for food by some persons," but he does not tell us who eats the feathers. On page 22, ¶ 19, he says, "The blood . . . penetrates into the spaces around each cell." This is true of some of the constituents of the blood, but not of the blood itself; if it were we should have the blood running around loose, outside of the veins and arteries. On page 227, ¶ 398, he says, "If only a few persons are in a room, cracks in the floor, windows and doors will be sufficient without special ventilation." This may have been true of the log cabins of our forefathers, but not of the nearly air-tight apartments of to-day. Ventilation is a matter of too much hygienic importance to be passed over thus carelessly.

2. A second objection to the book is that the author teaches as fact what are merely his personal views, and erroneous ones at that. He calls meat "light diet," page 123, because, he says it "requires less energy in its digestion," and recommends it almost to the entire exclusion of vegetables, leaving out of consideration the larger proportion of poisonous and irritating substances thus imposed upon the eliminating organs. "Vegetable food," he says, page 123, "always contains too much starch and sugar for the needs of the body." The scientific accuracy of these statements has already been called in question by dietetic specialists.

According to the preface the author seems to regard these "entirely novel" ideas as a recommendation for his book. If he were suggesting them as subjects to be verified by experiment this might be granted, but to teach them as facts without verification shows misconception of the sphere of a school textbook. Along this line of "entirely novel" ideas is to be classed his assumption that the effects of excessive sugar eating differ only in kind from the effects of alcohol. To demonstrate this, it must be shown that sugar eating is responsible for at least a fractional part as much physical wreckage and moral degradation as follows in the wake of alcohol.

3. A more serious objection to the book is its omission of fundamental facts concerning alcoholic drinks. In his treatment of beer, wine, cider and distilled liquors, as found on pages 43 and 44, Dr. Overton does not describe the nature of these drinks. From studying his description of them no child would know whether their use would be safe or unsafe; thus the vital point is left out. The author or teacher who fails to present the whole truth concerning the nature of alcoholic drinks as well as their effects, not only disobeys the law of many states but is criminally negligent of the opportunity to save life for time and eternity.

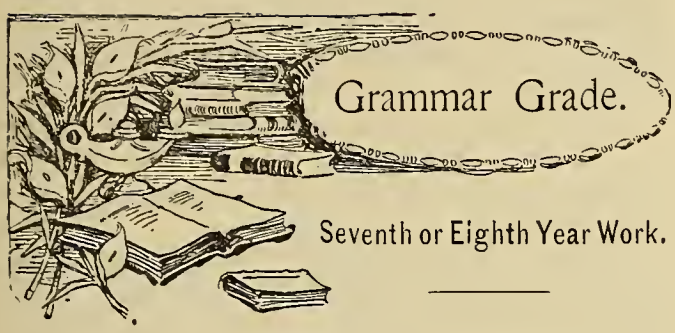
It is true the author says, page 45, that alcohol has an injurious effect upon every part of the body, but he proceeds at once to weaken this statement by saying that "the body has the power of rapidly disposing of it," (¶ 59, page 45) and that "nature pours out an abundance of water to dilute the irritating alcohol" (page 46) and that "thus its power to do harm is greatly lessened" (page 47).

Alcohol is classified by toxicologists as a narcotic poison. Able investigators here and in Europe are asserting that alcohol is not a stimulant, that its action is narcotic from first to last, and that what seems to be stimulation is but the beginning of narcosis.

It is this nature of alcohol as a narcotic which is to be taught, and which will correct the false notions people have imbibed from hearing it called a stimulant. The word stimulant through careless usage has come to convey the idea of additional strength or force, whereas its true meaning is simply that which quickens or excites. From this misconception has grown the popular idea that alcoholic drinks increase man's strength and power of endurance — an idea responsible for a large percentage of the drinking among working classes.

4. A fourth objection to the book is that it trespasses on the domain of medical literature. The purpose of this study is to teach physiology and hygiene, not to deal with the administration of drugs, as does the author on pages 148, 150 and 151, where he tells when to take calomel, muriatic acid, digitalis and strychnine. Further, it is not the object of this study to teach the therapeutic action of drugs, as he does in his treatment of alcohol as a stimulant. This discussion belongs to therapeutics.

The instances given in this short review serve to illustrate the defective character of the book even in its present form, and to suggest the reasons why it is not only unindorsed by this department but emphatically condemned.



THE SKIN AND CLEANLINESS.

A CERTAIN Oriental monarch is said to have paid his court physician a princely salary as long as the royal family remained in good health, but when sickness or death came, the salary stopped and the physician was deposed. This ruler realized that prevention was better than cure. It used to be the custom in America to expose children to measles, whooping cough and other minor diseases under the mistaken idea that children must have them any way, and the earlier in life the better. But since the world has learned that fully half its death rate is due to preventable diseases, doctors and parents have grown more careful, and hygiene in civilized lands is coming to receive the attention it deserves.

One of the early laws of health for the child to learn is that of personal cleanliness. Teach him from the first to wash his face and hands before meals, and oftener if necessary, to keep his desk in order at school, and his room at home, and when he is a man his interest will be on the side of clean cities, a pure water supply, and hygienic surroundings for the community.

The Lesson.

Boys and girls just budding into youth are likely to think of the topic suggested for this lesson as one of interest only to little children. It should be the endeavor of the teacher to open up before them at the outset such attractive fields of knowledge as to convince them of their mistake. An excellent way of rousing respect for a topic is to ask some difficult question about it. Try this method for the subject in hand.

A day or two before you are ready to assign a recitation upon the skin, write on the board:

The skin does at least seven different kinds of work. What are they?

Let the class study over the question, handing in answers as they find them until one or more pupils are ready with them all. Then put on the board as comprehensive an outline of the entire subject as your class are ready for, and assign one or more topics for their preparation from the textbook. Average pupils of these grades will find helpful such an outline as is given below:

Work of the Skin.

An organ of protection. An organ of respiration.
A heat regulator, An organ of absorption.
An organ of secretion. A sense organ.
An organ of excretion.

Structure of the Skin.

Materials:
Cells. Connective tissue.
Fat. Bloodvessels. Nerves.
Layers:
Epidermis. Dermis.
Glands:
Oil. Perspiratory.
Appendages:
Hair. Nails.

Care of the Skin as Regards

Diet. Exercise. Bathing. Clothing.

Effects of Narcotics on the Skin.

Alcoholic Drinks

Taken into the system. Applied externally.

Tobacco.

Take up the first topic, or such a part of it as may be sufficient for the first recitation, deciding before hand with the class what points are most important and deserve special study. These may be put on the board in the form of questions proposed by both pupils and teacher at the time of assigning the lesson.

As space forbids an elaboration of every topic mentioned in the outline, we give below an expansion of one or two points only. These should be used as suggestive for other topics of the outline. Talk them over with the class, and ask them to make out under your direction, lists of important points covering each topic as a basis for study. Continue this plan until the entire subject has been carefully taken up, and the respect of your class for this very important organ of the body as well as their knowledge of its wonderful mechanism will be largely increased.

In considering the skin as the heat regulator of the system some of the points to be brought out are:

Why does the skin feel warm to the touch? What keeps it warm?

Why are fish, frogs and snakes cold to the touch?

How does clothing keep one warm?

In what ways is bodily heat produced? Where does it come from?

How are the different parts of the body kept at nearly the same temperature? How is the warmth of the body regulated?

In thinking of the skin as an excretory organ, the class should know how to answer such questions as these :

What waste substances are got rid of through the skin?

What different functions has the perspiration?

Where is the perspiration secreted? How? What becomes of it?

If perspiration is constantly passing off, why does not the body always feel damp?

Why is not the temperature of the body higher in summer than in winter?

How is the body injured by retention of the perspiration?

For one recitation ask the class to bring in answers to the questions given above. Then at the close of the lesson analyze in a similar way other points under the first topic as a basis for succeeding lessons.

During the first recitation have a pupil test with a thermometer the temperature of different objects in the room, and also note the external temperature of his own body in contrast. Suggest a comparison between the body as a heating apparatus and a furnace. Ask what makes the furnace hot; the body; what in the body corresponds to the fuel in the furnace; what corresponds to the dampers? How does this regulator control the heat of the body?

When their interest in this comparison is thoroughly aroused show them a section of the skin under a microscope. Then ask them to describe this minutely, and to put on the board drawings of what they have seen.

Call attention to the manner in which the cells of the epidermis overlap, like the clapboards of a house, and ask for reasons why this should be so and what advantage it is to the body.

Probably all will know why the skin does not wear out readily and why holes do not come in one's fingers and toes as quickly as in gloves and stockings, but very likely there will be many in the class who can not explain how the skin repairs itself and where the needed material comes from. If so, this will be a good blackboard question requiring careful study of textbooks, and calling for a thorough review first of the circulatory system, then of digestion and food.

The hygiene of the skin may well come in at this point. When the class understand that the skin must not only keep itself in repair, but be always ready for service as one of the great drainage systems of the body, they will realize the importance of keeping it well supplied with proper food.

Write where all can see them these two questions :

Why is a good complexion an indication of good health?

How may a good complexion be secured?

Get as many answers as you can to the first question and these will help to answer the second. The points to be brought out in these replies are :

Good health means that every organ of the body is working properly.

When any organ is at work there is always waste matter to be disposed of.

A clear rosy complexion shows that none of this waste matter brought by the blood to the skin remains lodged there, but has passed off as it ought.

In answering the second question the class will start with the knowledge that the skin must be kept supplied with proper food and that its tiny pores must not be allowed to clog up. Before going farther tell them that a poor complexion often means that the food taken has not been properly digested, thus making more waste matter than can be got rid of promptly, or else that the skin has not been kept clean.

Put on the board the drawing of a vertical section of the skin showing the cells of which it is made, together with its blood vessels and respiratory glands. Then ask different pupils to explain from the drawing how nutriment from the blood vessels gets to the skin and how the respiratory glands take up waste matter from the blood and expel it from the body; also how the epidermis is continually renewed and what becomes of its worn out portions.

Ask the class to describe the country at the mouth of the Mississippi, the Nile, the Ganges or some other river with a large delta, to tell where this immense deposit brought down each year by such rivers comes from, and how the lower course of the river is effected by it. Ask what the result would be if a great embankment could be built high across the mouths of these rivers. Suggest that the class think of the ducts in the skin as tiny rivers, and ask how these are affected when their openings are stopped up by dirt or dead cells.

It will be well also in this connection to show the absurdity of trying to beautify the complexion by the use of pastes or powders. The class will readily understand from the illustration of the river that what is really necessary is to keep the pores of the skin free from all obstructions, and to supply enough food of the right kind to strengthen it for its work. Ordinarily the complexion may then be trusted to take care of itself.

Bring out the need of oxygen by lighting a bit of candle under a tumbler. Ask the class why the light soon goes out. Then explain why the body too needs oxygen, and that the food eaten can not be used by the tissues unless plenty of oxygen is present to help prepare it for them.

Illustrate the value of exercise by reminding the class that more oxygen is taken into the

body during a good run or brisk walk, and that this stirs up the bodily fire, just as the fire in a stove burns more briskly when the drafts are opened or when a bellows is used to force in more oxygen.

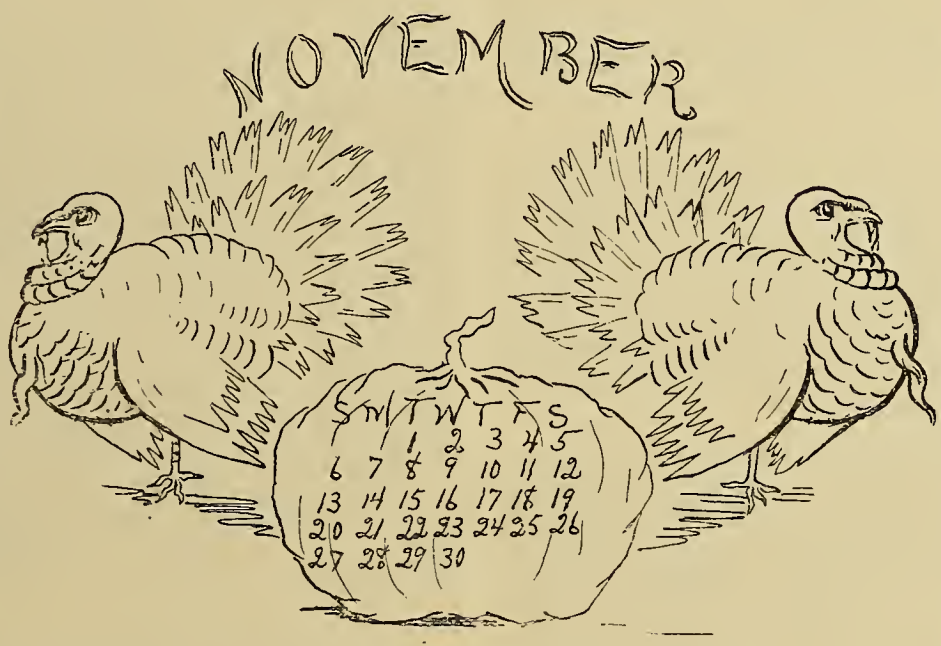
Action of Alcohol and Tobacco on the Skin.

Ask each pupil to propose a question on this topic, bringing out some point he would like settled for his own information. Use this list as a basis for the first recitation on the subject, then put a few comprehensive questions on the board as supplementary work. These should be answered either orally or as a written lesson, but without reference to textbooks. Include in this review such points as appear in the following suggested list:

Why should one of the first effects of alcohol drinking be a flushing of the skin?

What effect has alcohol upon the temperature of the body? Why?

In what two ways is the poor complexion of the habitual drunkard to be accounted for?



What other organ is likely to be overworked when the functions of the skin are arrested by alcohol?

How may a healthy skin be affected by the use of alcoholic liquors?

Why are alcohol drinkers more likely to suffer from sunstroke than abstainers?

How is the strong odor emanating from tobacco users to be accounted for? How does this narcotic get to the skin? Why is the use of tobacco forbidden to athletes?

After a thorough discussion of these questions take up the following quotations for class analysis. They may be read aloud slowly and the different thoughts expressed in each noted and written on the board, then compared with similar statements in the textbooks. The object of this lesson and of all others in temperance physiology should be to put the pupil in possession of such facts in right living as will instil in mind and soul a love for the pure and noble and an abhorrence of the evil.

AUTHORITATIVE QUOTATIONS.

Work of the Excretory Glands.

The excretory glands do the same kind of work over and over again, possibly resting less than any other part of the body. Their ability to do efficient work depends upon our manner of clothing the surface of the body, and habits of work which excite tissue change and the throwing off of tissue waste.—[Dietetic and Hygienic Gazette.

Need of Ventilation.

There is no filth more filthy than that which comes in the air from other people's lungs and skins. Think of 300 persons in a room with only 10,000 cubic feet, shut up like 300 bugs in a bottle with only an opening at the cork. Put a stop to this abuse of the body by demanding at all receptions sufficient fresh, clear, pure air to feed the lungs.—[Journal of Hygiene.

Hygiene of the Complexion.

Exercise in the open air is one of the things necessary to all those who would have fine complexions, but this alone is not sufficient. We cannot live on air alone. If the diet and digestion are bad the complexion will suffer no matter how much fresh air is taken. The juices of fruit help to keep the system clean internally and prevent the accumulation of waste matter which lodging in the skin gives it an unwholesome appearance. Give the children access to fresh, ripe fruit and never stint them in their allowance.—[Journal of Hygiene.

Results of Training the Skin.

The skin under training becomes smooth, clear, fresh colored and elastic.

Cleanliness Essential in Fighting Disease.

At the present moment diseases are current in all quarters of the globe, the preventive treatment of which resolves itself into a mere inforcement of cleanliness.

Beneficial Effects of the Bath.

The effects of frequent bathing are the pres-

ervation of health and increased resistance to disease. A clean person makes a better citizen than an unclean one.—[Dietetic and Hygienic Gazette.

Worn Out Matter Poisons the System.

The human system is continually generating poisons and throwing them off by means of the lungs, the skin, the kidneys, and the bowels. More than enough is formed in the body daily to kill the man or woman.

Should worn out, effete material not be removed it is apt to be re-absorbed, poisoning the system and producing disease.—A. T. Cuzner, M. D.

Alcohol Lowers Temperature.

The nerves of the blood-vessels that should control the passage of the blood through them are paralyzed. The blood-vessels expand and an undue amount of blood flows to the surface. This produces a temporary feeling that the body is warmer, but the final result is a decrease of the temperature of the body as a whole.—H. Newell Martin, M. D., F. R. S.

Alcohol Induces Sunstroke.

One effect of alcohol is to paralyze the heat-regulating mechanism; the blood becomes overloaded with waste material, and the paralysis produced by the alcohol is added to that produced by the heat. Abstainers, other things being equal, can always endure extremes of temperature better than consumers of alcohol. —[Medical Pioneer.

Alcohol Injures the Texture of the Skin.

With repeated alcoholic indulgence the skin is congested and puffy, and on exposed parts it is seen to have a purplish or reddish blotched appearance; pimples appear on parts, such as the nose, where the natural circulation is more feeble. The congestion interferes with the nutrition of the skin. The epidermis is imperfectly nourished and collects in scaly masses interfering with the proper action of the sweat-glands, thus throwing undue work on the kidneys.—H. Newell Martin, M. D., F. R. S.

Alcohol a Cause of Skin Disease.

Skin diseases are induced by the habitual use of distilled liquors, wines and brandies.—Charles H. Shepard, M. D.

Tobacco Lowers Working Ability.

Whenever it is desired to secure the highest possible working ability by the organism, tobacco is one of the first substances forbidden. —J. W. Seaver, M. D.

Tobacco lodges itself in the tissues. I have had persons under treatment who, upon being put into a wet sheet pack and lying for an hour and a half, would emit a decided tobacco odor after this process had been in operation for a few days.—J. C. Jackson, M. D.

HIS 'RITHMETIC LESSON.

"This is a straight story," said a grocery clerk, whose veracity has never been impeached. "It happened in our store. A little boy came in on Monday and waited for some one to notice him. He carried a sheet of writing paper in his hand, at which he glanced from time to time. One of the idle clerks came to him finally, and the boy, reading from his paper, announced in a sing-song voice: 'My mother wants ten pounds of rice, fifteen pounds of sugar, twelve pounds of oatmeal, twenty pounds of ———' 'Hold on!' interrupted the clerk. 'Not so fast. Suppose you give me that paper and I'll fill out the order.'

"But the boy insisted on calling off the articles by himself. Two other clerks were pressed into service, and the three men proceeded to do up the various packages as the boy called them off. He wanted all kinds of things, and asked the price of each article as he went along, making a note of it on his paper. The clerks had the counter stacked with packages when the boy wound up with 'eighteen pounds of flour.' One of the clerks called out the price, and the boy continued, in his sing-song voice: 'And how much money does my mother have to pay for her groceries?'

"One of the clerks counted up the total and announced it as $18.73. The boy made a note of it and started out. 'Come back here; where are you going?' they cried in chorus.

"'Why,' said the boy, as he made for the door, 'that's jest my 'rithmetic lesson for Monday. I have to know it, or I'll get licked.'"—[Philadelphia Record.

CARROTS FOR CLARET.

A story showing how easily the use of liquor in cases of sickness can be dispensed with is told by one of our exchanges.

The other day a distracted mother brought her daughter to see a physician. The girl was suffering from "general lowness." The doctor prescribed for her a glass of claret three times a day with her meals. The mother was somewhat deaf, but apparently heard all he said, and bore off her daughter. In ten days' time they were back again, and the girl was rosy-cheeked, smiling and the picture of health. The doctor congratulated himself upon the keen insight he had displayed in his diagnosis of the case. "I am glad to see that your daughter is so much better," he said. "Yes," exclaimed the grateful mother; "thanks to you, doctor! She has had just what you ordered. She has eaten carrots three times a day since we were here, and sometimes oftener — once or twice uncooked — and now look at her!"—Ex.

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A NOBLE WORK FOR FREEDOM.

WHAT is taught the children to-day may seem a small humdrum matter of hardly local importance, but when nation clashes against nation in the supreme hour of war, the teachings of childhood which have been wrought into the lives of such contending peoples, show themselves as character, and manifest themselves in national destiny. Frenchmen acknowledge that it was the German school master who beat them at Sedan. If the true history of the sinking of the Merrimac, and the consequent destruction of Cervera's fleet at the mouth of Santiago Bay is ever written, temperance physiology will not be omitted from its pages. Hobson knew from this study at the Naval Academy in Annapolis, that whisky would not steady the nerves for daring and critical deeds or bring victory to us, while the awful mistake of the Spanish officers in opening stores of alcohol to incite their men to courage in that scene of carnage and death, meant an added cause of sore defeat for their doomed squadron.

Nicol and Hay in their life of Lincoln, tell their readers that the secession which brought on the Civil War would have been impossible without whisky. Our nation had not then come to realize that it must teach its children through the public schools that alcohol dethrones reason; and thus, unrestrained by the teaching of the school, alcohol played its part in plunging this nation into four years of bloody war.

So far as we are yet able to get the facts, they go to show that in the war with Spain, those military organizations which allowed the sale and use of alcoholic drinks had the most sickness and death; while the regiments and batteries from the states that have had strong temperance education laws longest in force, had the fewest canteens and the best health.

These brief references to the part alcohol has played in the great dramas of national life, point to the duty of teaching the nature and effects of alcoholic drinks and other narcotics as the teacher's great opportunity to influence and shape the destiny of the world.

Alcohol is the greatest enemy of liberty in all the world to-day. If our soldiers had performed every other duty but that of firing at the enemy they faced in Manila Bay, at San Juan, El Caney, Santiago and Porto Rico, they would have merited the execrations of the patriots at home.

Happily none of our boys in blue needed to be goaded. They never dodged the enemy, and for their deeds

> "done for freedom,
> Through the broad earth's aching breast
> Runs a thrill of joy prophetic,
> Trembling on from East to West."

But the institute instructor or teacher only quibbles when under the guise of "teaching the positive and not the negative," of "holding up the ideal and not the morbid," he fails to teach with physiology and hygiene the real nature and effects of alcoholic drinks and other narcotics, and thus leaves unhurt in its entrenchments humanity's greatest enemy — popular ignorance and misapprehension.

We do not hesitate to say that such an instructor or teacher is false to one of the greatest opportunities that can be his to influence the future for good.

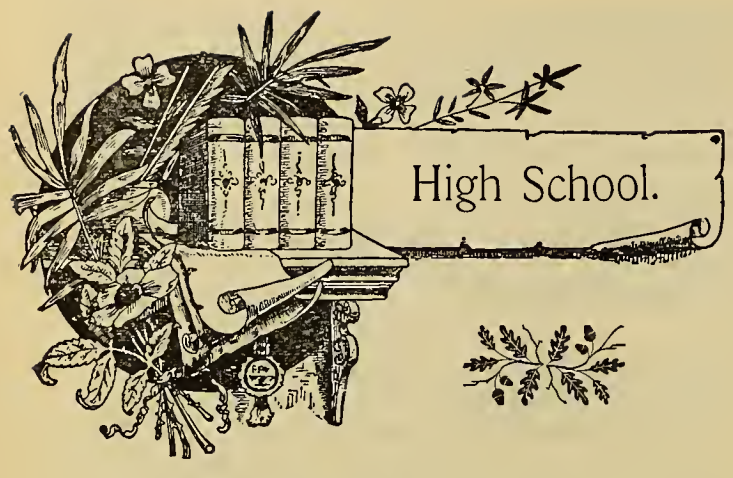
The twentieth century American will have strong terms to hurl at such derelicts as he points to the ruined lives that might have been saved, and to the noble work for freedom that might have been done by teaching the full truth against alcohol.

The attempt to secure the physical ideal by holding up that alone before children who inherit the conditions of to-day and who are surrounded by its temptations and examples, while omitting to show the consequences of disobeying physical law, will be a dismal failure.

An educational writer says, "The true way to keep bad things out of the mind is to put good things into the mind." That is right, if the "good things" include such warning as will enable the child to know what is bad and why he should avoid it. The boy who knows that the foaming beer, the sparkling wine, the attractive cider and the harmless looking cigarette have the power to lure him to destruction, has a thousand times better chance of reaching the physical ideal because a knowledge of these dangers has been imparted to him.

The child is in a world where the physically wrong, though it may not at first seem wrong, is ever pressing upon him for acceptance. That education is the right one which holds up the ideal, shows how it may be attained, and warns against the dangers which stand in the way of its realization.

You are dealing with souls as well as bodies. Take care teacher, that you do not sacrifice these on a half truth which will not stand the test of experience.



CELL LIFE AND GROWTH.

THE events of the past six months have convinced other governments besides our own that "the wealth of a nation in the last resort is to be measured by the character and quality of its young men and women."

When the call came for our men to prove their patriotism by leaving home and country to succor those of another race, there was no need of forced drafts. Every recruiting office was filled to overflowing with the best and bravest from all walks of life. The national character was sound and strong.

How was it with the national constitution, the physique of these young patriots? A very large proportion, in some instances more than half, of the number offered for enlistment was rejected because of physical unfitness for the service required. A tobacco heart, senses impaired by the use of alcoholic drinks, organic disease of almost every kind induced and fostered by these same stealthy poisons, was brought to light by the searching examination to which these would-be soldiers were subjected, and in many instances compelled their rejection.

The great majority of young people in our land are not in training for a soldier's life, nor will they ever be called to pass such an ordeal; but none the less do they need the soundest physical constitutions that training and education can give. This is the reason underlying the introduction of temperance physiology into all public schools, and it is one which should appeal to every teacher.

The Lesson.

The topic selected to begin the high school work for this year will be filled with absorbing interest for the class if rightly presented. Cells are the foundation upon which every part of the body is built; each organ depends upon their form and method of arrangement; the ability of any organ must be reckoned in terms of cells, just as the ability of a nation is reckoned in terms of the citizens which compose it. The main thought therefore, for the class to keep in mind as they study this subject is the question:

How can I build up strong, vigorous cells in every part of my own body?

When assigning this topic, ask the class to name the most complicated pieces of machinery they have ever seen or heard of. Spend a few minutes in talking about whatever is mentioned, bringing out especially the number of distinct parts of which each is composed, the different materials used in making each part, and the use to which each part is put.

Ask the class next to think of the body as a machine, noticing the same points. Call for a comparison of the head with the arm as to appearance, shape, power of movement, parts and functions. In like manner let the class compare other parts of the body, such as the hair and nails, the skin and teeth, the blood and the saliva, bones and muscles, the nervous system and the digestive apparatus. Then as guides in preparing a lesson upon the general subject of Cells, assign the following

Questions for Research.

Why is the human body made up of almost totally different parts?

Of what different substances is the arm composed? the eye?

Why do the organs of the body differ in form, structure and purpose?

What characteristic properties and use have each of the different tissues of the body, such as muscular tissue? bony tissue?

Describe orally and by illustrative drawings the simplest forms of tissues or cells, indicating the differences in form and size which may occur.

What other work is required of the cells of any organ besides providing for its own growth and repair?

Give as many examples as possible of the kinds of work done by the cells of the different organs?

Why do cells differ in form and arrangement, and in the kind of work they are called upon to do?

Why does the fact that man has more highly specialized cells than any other animal place him highest in the scale of living creatures?

How does a person's physical strength depend upon the kind of cells of which his muscles are composed?

What kind of brain cells must one have in order to become distinguished for mental ability?

What is needed to insure vigorous growth and healthy action in every cell of the body?

In what ways may the cells of any organ be stunted in their growth, or so injured as to be unable to perform their work properly?

How will such injury affect the organ itself? the entire body?

Why are such narcotics as alcohol and tobacco especially injurious to the life and growth of cells? in what ways are the cells harmed by their use?

Ask each pupil to select from this list of questions one or more for which he will be especially responsible, and which he is willing to look up in other books besides his general text-book. At the time of recitation then, each question may be treated as a special topic and discussed in full by the pupil to which it has been assigned, the class adding any further information possible at each point.

Ask all in the class to give special thought and study to the effects of alcohol and tobacco upon the cells composing each organ; then upon the organs themselves, and the work they are expected to do. Emphasize the facts thus brought out by reference to the quotations closing this lesson which may be read aloud in class and later written upon the board.

AUTHORITATIVE QUOTATIONS.

Narcotics Induce Ill Health.

No man who is addicted to the chronic use of alcohol or opium possesses a healthy body. The degenerate cerebral nerve cells indicate an unmistakable pathological condition. — H. J. Hall, M. D.

Alcohol Poisons Nerve Centers.

Alcohol is so distinctly poisoning to the nerve centers and cells that once its peculiar influence, like that of opium and other narcotics, is made on these structures, the desires and cravings for it become permanent, overruling all other considerations.—J. E. Blaine, M. D.

Alcohol Harms Both Animal and Vegetable Cells.

Experiments with plants show that they do not thrive when watered with water which contains half of one per cent. of alcohol, but that vegetable protoplasm is thus materially injured. The vegetable cell is not so very different from the animal cell as to prohibit the belief that if the protoplasm of the former is injured by minute doses of alcohol, that of the latter is affected in a similar manner.—J. W. Grosvenor, M. D.

Alcohol Destroys the Tissues.

Dr. Richardson proved by demonstration that in men and animals treated by alcohol degeneration of the tissues is produced, and the action of the membranes of the system is altered. — Edward R. Caro, M. D.

Alcohol Injures Health.

Alcohol is a product which sooner or later destroys the health of those who use it. — Dr. Garochevshy.

Alcohol Favors Disease.

While alcohol is injurious to living or constructive protoplasm, that which builds up and forms all kinds of structures and living beings of all higher types, it favors the growth and multiplication of many microbes whose function is antagonistic to the protoplasm of organized beings, and which may therefore be called destructive protoplasm. These microbes are kept at bay by the vitality of the tissues. If this vitality is lowered they may prevail. As soon as life departs they set to work, and decomposition is the result. It is therefore not very surprising that an agent like alcohol which lowers the vitality of constructive protoplasm, should on the other hand increase the vitality of destructive protoplasm. At any rate such is the fact. — J. J. Ridge, M. D.

Alcohol Causes Degeneration.

Alcohol replaces more actively vital materials by fat and fibrous tissue; it substitutes suppuration for new growth; it helps time to produce the effects of age; and in a word, is the genius of degeneration. — [Medical Pioneer.

Alcohol is Antagonistic to Life.

The antagonism of alcohol to the fundamental functions of life is exhibited by its action on the cellular elements of living tissues and the free cells of the blood. — J. J. Ridge, M. D.

Alcohol Lessens Mental Vigor.

Alcohol poisons the blood, the heart, the brain and the nerves. It distorts, depraves and degenerates the organism. It destroys the delicate mechanism of the mind's display, and pollutes the fountain source of the soul's manifestation. It burns out the machinery of the mind with fire infernal, and where a spark of divinity might dwell it leaves but the cinders and ashes of a once brightly glowing and glorious mentality. — C. H. Hughes, M. D.

Tobacco Retards Cell Growth.

Tobacco retards that progressive cell-change upon which the advanced development of the body depends.—Laban Dennis, M. D.

Tobacco Wastes Energy.

Upon the young, tobacco has a decidedly injurious effect; so much energy being wasted through all the years when so much is needed for growth and repair, and the whole organism being in a state of disorder.—Selma Severson, M. D.

AMERICAN CIVILIZATION.

English Influence.

"We have need of these
Clear beacon stars to warn and guide our age.
The great traditions of a nation's life,
Her founder's lustrous deeds with honor rife,
Are her most precious jewels, noblest heritage,
Time-polished jewels in her diadem."

GREAT Britain has for generations been a colonizing nation. She has left the stamp of her free institutions and her commercial activity on every continent and in every zone. The great hold which the Protestant religion has in the world to-day is due to this fact. The influence of England forms the very framework of American civilization. Other nations have furnished the house, England has built it. The vitality of English institutions was thoroughly tested in the struggle for existence on this continent in the early days.

Courtesy of Houghton, Mifflin & Co.

The Ruins of Jamestown.

The English came to America in three distinct groups, each for a purpose and with characteristics of its own. The first, a band of Cavaliers, set sail from England just as the seventeenth century was ushered in. The future had much bitterness in store for them, but unconscious of it then, their hopes were as bright as the garb of their leaders.

This colony at Jamestown was composed of English knights of high rank, to whom the liberal terms of the home government had made colonization an object, and who for various reasons desired to try their fortunes abroad. It also included many needy adventurers, vagabond gentlemen, and servants of no good reputation. At no time did this colony make religion, or the education of their children subjects of prime importance. One writer remarks that they abstained from education as from a Puritan vice. The words of Sir William Berkley on the subject have become historic:

"I thank God that there are no free schools nor printing [in Virginia], and I hope we shall not have them these hundred years, for learning has brought disobedience and heresy and sects into the world, and printing has developed them and libels against the government. God keep us from both."

But all did not sympathize with him, and less than two centuries thereafter Virginia became the "Mother of Presidents." These rich Virginia planters found it possible to make a luxurious living for themselves out of the responsive soil in that perfect climate. They had leisure to cultivate those amenities of life which their more energetic northern countrymen did not. Their work was performed largely by slaves, and they amused themselves by hunting and other diversions. Many of the more unworthy disgraced the colony by the use to which they put this leisure. Others represented the type for which Washington will always stand. They introduced into our civilization the gentle courtesy, the gracious hospitality, and the sweet attractiveness of manner for which the South has ever been justly renowned.

What Plymouth was to the North, Jamestown was to the South. The early Virginian of the best type was a man whose sense of honor was as keen as that of his Puritan brother, but in a different wise. It is said of our first president that his brand, George Washington of Mount Vernon, would pass a flour barrel unchallenged through the most suspicious West Indian custom-house.

A few years later, five hundred miles to the north, another band of Englishmen lighted their camp-fires and laid the corner-stone of industrial New England.

Perhaps no stronger contrast would be possible in people of the same race than that between the Cavalier and the Puritan of those days, typed by Sir Walter Raleigh and the honorable and reverend Cotton Mather. The one full of ease and careless grace, the other fired with grim purpose and the high resolve which

"Welcomes each rebuff
That turns earth's smoothness rough."

The Puritans who settled Salem and Boston and the towns around did not come to this wild coast for any idle dream. Soon after landing in 1630, they made the following agreement:

"Wee . . do hereby . . solemnly . . Promise and bind ourselves to walke in all our wayes according to the Rule of the Gospell."

The second year it was ordered that no one not a church member should be allowed to vote. Their motive was solely religious. But in their case the principle of religious liberty for all was subordinate to their own personal views. They were not identical in character or belief with the Pilgrims. The latter had cut loose entirely from the Church of England; the former were Nonconformists, remaining within the established church, in spite of persecution and their own strong opposition to what they considered "corrupt and unauthorized tradition and practices."

This colony was relentless in uprooting every form of heresy from its midst. Its members did not deny the right to persecute, but only the right of the Church of England to persecute them. Thus in their hostile attitude toward the witches of Salem and the Quakers, they were perfectly consistent with what they believed.

It is interesting to note that almost without exception those who were expelled by this colony on account of their religious beliefs repaired to Rhode Island. Thomas Wentworth Higginson, in his charming essay on The Puritan Minister says:

"The Puritans kept Rhode Island for what housekeepers call an 'odd drawer,' into which to crowd all eccentricities. . . . . If any man happened to lose his religious opinion he could find it again in Rhode Island."

The sternness of their theology was matched by the rugged simplicity of their lives. Many apt illustrations might be given of the stuff of which these settlers were made. Their moral tone was reinforced by a physique as vigorous. Just outside the town of Arlington, Mass., is a plain granite slab bearing the following inscription:

"Near this spot Samuel Whittemore, then eighty years of age, killed three British soldiers, April 19, 1775. He was shot, bayoneted, beaten, and left for dead. He recovered, and lived to be ninety-eight years old."

No less sturdy was their scorn of pretense and vain display. In their eyes it was a crime to appear to be what one was not. It was decreed that no person whose visible estates did not exceed the value of £200 should wear "any gold or silver lace or gold or silver buttons—or silke hoodes or scarfes uppon the penalty of ten shillings for every such offense."

"Titles were very carefully adjusted in those days. Mr. was allowed only to those who had taken the degree of Master of Arts at college, to professional men, merchants, military officers, or mates of vessels. Mr. Josiah Plastrow, when he had stolen four baskets of corn from the Indians was degraded into plain Josiah."

One other colony helped lay the foundations of English predominence in the new world.

"Not as the conqueror comes,
They, the true-hearted, came."

The motives that inspired the Pilgrim Fathers to their new life of hardship were also solely religious. With true English loyalty they were not content to settle in Holland where they must lose their own language and customs. They stood for a principle which they sought to make "a star to men forever."

Gathering the first Mayflowers.

In distinction from the Puritan, who came ten years afterwards, they were Separatists from the Church of England, and held that the state had no right to dictate to individuals in matters of conscience. Mr. Fairbairn has characterized the government of the Plymouth colony as a polity built upon a theocracy. This band sojourning in Holland has been compared to the children of Israel in exile. The sea was their wilderness, beyond it their Canaan, the Bible and the faith it taught their pillar of fire.

"Next to the fugitives whom Moses led out of Egypt," says Mr. Lowell, "the little shipload of outcasts who landed at Plymouth nearly three centuries ago, are destined to influence the future of the world."

The poet Longfellow has called Plymouth

The door-step into a world unknown,
The corner-stone of a nation.

The spirit of the Pilgrims was a resistless moral force. It has been truly said that there is scarcely a person in New England to-day who does not draw upon the reserve of virtue stored up by the early Pilgrims. In the words of Mr. Higginson, they put that iron into the New England blood which has since supplied the tonic for a continent.

The rare contentment of the New England colonists with their lot, and their cheerful perseverance is a significant characteristic. Amid "bleak solitudes, angry gales and homeless wastes" they built their little cabins and did not murmur. When half their number died that first terrible winter they still kept up their courage.

"O strong hearts and true!
Not one went back in the Mayflower!
No, not one looked back
Who had set his hand to that ploughing."

"It was to this spirit of contentedness, to the unalterable faith [of these men] in the future of America that this great republic owes its present grandeur."

The English in Massachusetts made three important contributions to the civilization of the new world. They established here forever the principle of religious liberty for all; they broke down class prejudice; and they emphasized the importance of universal education.

There has never been in America the old-world distinction of aristocrat and peasant. Puritanism overrode social prejudice. "The meanest peasant felt himself ennobled as a child of God, the proudest noble recognized a spiritual equality in the poorest saint." Common dangers and mutual privations too, caused a great levelling up.

The Boston colonies early decided that ignorance was productive of evil results, and accordingly they hastened to establish schools. In overwhelming proportion they themselves were men of learning and refinement, college and university trained, many of them already famous in England for literary achievements. Among their early laws we find:

"It being one chiefe project of that ould deluder, Satan, to keepe men from a knowledge of the Scriptures. . . .

It is therefore ordered, that every towneship . . . appoint one within their towne to teach all such children as shall resort to him to write and reade."

The English colonists brought here many principles of law and government which are prominent in our state and national constitution to-day. They brought the love of home and domestic life which is so deeply inbred in the English nature, and which contrasts sharply with the habits of many other peoples. The honor in which woman is held in this country, and the educational opportunities she has been given are the outgrowth of the English idea.

But in looking at the influence of English colonization in general on this country, the most prominent is the persistence of the English language. Although the colonists were few in number, although climate and all sorts of obstacles conspired against the success of two of their settlements, they steadily gained ground, and wherever they mixed with people of another race English ideas prevailed and the English language was spoken.

"When the Pilgrim Fathers first set foot upon the snows of Plymouth Rock there were less than three million men upon the face of the earth who spoke the Anglo-Saxon tongue. Now there are more than sixty millions on this continent alone, and it may be emphatically said that the sun never looks down upon the land where the Anglo-American language is a stranger."

A SUPPLEMENT TO THE SCHOOLS.

The international committee of Young Men's Christian Associations has just issued its prospectus and annual report of educational work for 1898, in which it makes a most gratifying showing. Special attention is given to the work of the evening schools operated under the auspices of the associations in 350 cities, in which 1,250 teachers give instruction to 26,000 young men. These students on an average are 23 years old, are employed in the day time, and in the majority of instances would otherwise be denied educational opportunities.

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Five per cent. only of American boys enter the high schools. Ninety-five per cent. go to work before reaching the high school age. The Young Men's Christian Association helps to remedy this deficiency. Its mechanical classes enables thousands to prepare intelligently for a business life. Best of all, throughout its manifold departments is felt the dignity and power of a strong, moral purpose, which uplifts while it educates. All honor to this Association which places educational facilities within the reach of those who earn their living by their hands.

PHYSIOLOGY TOPICS FOR NOVEMBER.

PRIMARY — Food; apples and grapes, or cider and wine — which are better? Taste. Muscles; how alcohol and tobacco affect them.

INTERMEDIATE — Digestion. Heart and circulation. Respiration.

ADVANCED — The skin; its uses and care. Digestion; absorption; assimilation.

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DECEMBER, 1898.

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DECEMBER.

THE lakes of ice gleam bluer than the lakes
Of water 'neath the summer sunshine gleamed :
Far fairer than when placidly it streamed,
The brook its frozen architecture makes,
And under bridges white its swift way takes.—H. H.

THE HEART OF THE SNOW.

I LOOK on the naked forest :
Was it ever green in June?
Did it burn with gold and crimson
In the dim autumnal noon?

I look on the desolate garden :
Is it true the rose was there?
And the woodbine's musky blossoms,
And the hyacinth's purple hair?

Is the stem of bliss but withered?
Does the root survive the blast?
Are the seeds of the future sleeping
Under the leaves of the past?

Ah, yes, for a thousand Aprils
The frozen germs shall grow,
And the dews of a thousand summers
Wait in the heart of the snow.

—BAYARD TAYLOR.

Winter. Burne-Jones.

THE PASSING OF AUTUMN.

THE wizard has woven his ancient scheme ;
A day and a starlit night ;
And the world is a shadowy-penciled dream
Of color, haze and light.

Like something an angel wrought, maybe,
To answer a fairy's whim,
A fold of an ancient tapestry,
A phantom rare and dim.

Silent and smooth as the crystal stone
The rivers lie serene,
And the fading hills are a jewelled throne
For the Fall and the Mist, his Queen.

Silvery-soft by the forest side—
Wine-red, yellow, rose—
The wizard of Autumn, faint, blue-eyed—
Swinging his censer, goes.

—ARCHIBALD LAMPMAN,
in November Scribner.

"Slim as out of aerial seas,
The elms and poplars fair
Float like the dainty spirits of trees
In the mellow dream-like air."

"But I know, tho' round and above her
Are spells of the wizard death,
That waiting the Spring her lover,
Summer but slumbereth."

A CHRISTMAS SYMPHONY.

O Christmas stars! your pregnant silentness,
Mute syllabled in rhythmic light,
Leads on to-night,
And beckons, as three thousand years ago
It beckoning led. . . . .
. . . . We hear,
If we attend, a singing in the sky;
But feel no fear,
Knowing that God is always nigh,

And none pass by,
Except his sons, who can not bring
Tidings of evil, since they sing.

—HELEN HUNT JACKSON.

THE LATEST FACTS ON THE TEMPERANCE QUESTION.

The poet Lowell says:

"At the birth of each new Era, with a recognizing start,
Nation wildly looks at nation standing with mute lips apart."

Have we reached the dawn of such an era for the temperance cause? Three things indicate that we have.

Through the centuries the human family has gone on blindly suffering the consequences of ignorantly violating natural law in the use of alcoholic drinks. These consequences, extending even to unborn generations, they have charged either to human depravity or to an inscrutable Providence instead of to the real cause — the alcoholic liquors which the people have loved to drink. As long as this condition of misapprehension prevailed there was no hope.

But the history of human progress shows that when people get a glimpse of the cause of preventable evil, the midnight blackness has begun to change into gray. The prevention of that evil is then only a question of time, though it may seem long to eager watchers for the better day.

THE FIRST SIGN

of the coming of this new era to the human family is the fact that the civilized nations of the earth are putting cause and effect together on the alcohol question as never before.

Italy once, and France twice in ten years, has cut down the standard height for her soldiers, and these nations are beginning to see why. Statistics recently published by the Prime Minister of Belgium show that the increased use of alcohol in France, Switzerland and Belgium, is recognized as the cause of that physical decline in stature which is filling those nations with alarm for their future.

Close investigation is proving to the Kaiser that the German beer-drinking soldier has only eighty or eighty-five per cent. of the endurance of the total abstainer, and his economists are calling attention to the bad effects that increasing drink habits are having upon German industries.

The young Czar of Russia, alarmed at the inroads which he sees alcohol is making both upon his army and people, is striving to stem the tide. Thoughtful Englishmen know that Britain's greatest enemy is alcohol. Yet, unmindful of the fact that alcohol has the power to create an uncontrollable and destructive appetite for more, the nations of Europe are beseeching the people to refrain from the abuse of alcoholic drinks, and to take them only moderately. Alas, blind leaders of the blind! Until the nature of alcohol is radically changed there is but one safe rule concerning it, and that is the law of total abstinence.

The relation of the lager beer canteen to the fearful loss of life from disease among our soldiers in the home camps as well as on the field, has been made sadly evident to the American people. Over the youthful graves of their sons the truth has been burned into their hearts as never before, that alcohol is the greatest foe to the principle of human liberty for which we as a nation stand.

THE SECOND SIGN

of the coming of the new era on the alcohol question is this:

Every reason that the advocates of alcoholic drinks can present to-day for the use of such drinks is overwhelmingly contradicted by the strongest scientific authority the world can produce.

The truth stands revealed. Alcohol is the genius of degeneracy; and no juggling with quotations can stifle this truth or hide it from the people and their children whose heritage it is. Vain are the efforts to make the clock of the world move backward. Regardless of interested opposition its great pendulum swings to the rhythm of truth. In the fullness of time it strikes the death knell of Error, and when that hour comes no man can turn the hand back on the dial.

THE THIRD SIGN

of the coming of the new era, when the reign of alcohol will be no more, is the fact that the results that we said would follow from teaching the truth against it are following. Every state in the United States but four, Virginia, Utah, Georgia and Arkansas, requires that the nature and effects of alcoholic drinks and other narcotics, in connection with physiology and hygiene, shall be taught all pupils in all schools. These laws began to go into force in the larger states in 1886, twelve years ago.

Two years thereafter, according to the reports of the United States Revenue Department, the per capita consumption of wine began to decrease. Five years later the per

capita consumption of distilled liquors began to decline; and last year, nine years after we began teaching the children nature's abhorrence of strong drink, official reports showed a marked decline in the use of beer. According to the New York Medical Record, the decline in the consumption of alcohol within the ten years from 1888 to 1898 amounts to about 30% in the United States. Prior to 1888 there had been, in spite of all temperance efforts then operating, an increase in the per capita consumption of these beverages.

During these ten years the only new feature in temperance effort that has been introduced so generally as to touch all parts of our country, has been temperance education in the public schools. During this period some of our prohibitory laws have been repealed and others have been weakened. Less, rather than more, temperance platform work has been done in this time than during the preceding years. In addition to these untoward conditions 4,301,452 people have come to abide in our country since 1888, bringing with them the wine, beer, whiskey and gin drinking habits of lands across the sea. They have become American citizens, voting at our elections and drinking at our saloons. That these incoming millions, almost to a man, have been an addition to the alcohol consumers of this land, is a matter of public knowledge, and yet in the face of all these discouraging facts the consumption of some of the alcoholic liquors has steadily decreased during the past ten years, and that of all alcoholic liquors for the last five years.

"The Christmas bells from hill to hill
Answer each other in the mist."

The brewers in their annual report for the year ending June 30, 1897, show that there was a decrease of 1,402,999 barrels in the sales of beer for the revenue year of 1897, as compared with those of 1896. There were 9,690 fewer liquor dealers in the United States in 1897 than the year before. This is

The Beginning of the End.

How soon that end will come depends on our continued and persistent efforts in pushing this temperance education work in our public schools. Ours is the only country that has anything like a universal system of compulsory temperance education for all pupils in all its public schools. Canada stands next. In all the other leading countries in the world, the consumption of alcohol is increasing.

Our English friends are doing as much church, society and Band of Hope temperance work as we are doing, and perhaps more; but they have no system of scientific temperance education which reaches all pupils in all their schools, and England's drink bill for 1897, according to Dr. Burns' recent budget in the London Times, ran up to $16,500,000 more than that of the preceding year.

In this country, thank God, we are getting in the truth and it is bearing fruit. Scientific temperance instruction in the public schools is the seed from which other temperance blessings are sure to spring.

The Impossible is Being Accomplished.

We are told that we can never stop the selling of liquor so long as the government receives such an enormous tax on its sale. We are not surprised by this gloomy assurance, for last year there was paid into the national treasury as tax on liquors and tobacco, $139,518,916. Will our government ever consent to forego this vast revenue which is over one-third of the entire annual receipts with which we pay our president, his cabinet, members of Congress, other government employees, our army and navy, pensions, and with which we meet the expense of our postal system and all other costs of our national government? You are startled, perhaps disheartened by this question, but the giving up of this great sum has already begun in the most gradual, unobserved and natural way possible, and without thought of revolution. This decrease in the consumption of alcohol has meant an average decrease of more than three and one-third million dollars per year in government receipts since 1893.

While not denying that other causes may

have contributed something toward this marked decrease in the consumption of alcohol, a study of the tabulated reports from year to year shows a steady, unmistakable decline in the consumption of alcoholic liquors, coördinate with the gathering momentum of the temperance education movement. We would not for a moment question the value of other temperance efforts which have helped to secure these results, but the figures show that such efforts without temperance education were not adequate to produce this decline in the treasury.

If we are only faithful in pushing temperance education work, the stream of blood-money that flows into our national treasury will decrease, as the people drink less and less, until it ceases to be a factor in our temperance problem. As our country grows in the true wealth of intelligent sobriety and consequent ability and power to produce, we shall prefer direct taxation to the present method of getting revenue through a traffic that fills poor-houses, prisons, insane asylums, and graveyards with our own people. Put back into the pockets of our people each year the $1,000,000,000 that the drink system now costs them, and they will have money enough with which to run the government.

The question of revenue and the consequent intrenchment of government in this evil will take care of themselves if we push the work of education vigorously, and thus get the majority of our people to be intelligent abstainers. Government in this country depends on the consent of the governed. When we have secured the consent of the governed for the abolishment of alcohol which an enlightened people will no longer desire to drink, the rest of our problem will be easy.

The Progress of the Year.

The war has absorbed public interest to the exclusion of every thing else; the cause of temperance education with other good causes has therefore been somewhat eclipsed. Nevertheless the movement as a whole has not been backward. One state, Delaware, has strengthened its temperance education law—other states are proposing to do the same. There has been a marked gain in the adoption of indorsed books throughout the country.

In Nebraska, the department of public instruction, through the action of its state superintendent of public schools, has issued an excellent course of study in temperance physiology for all grades, recommending indorsed textbooks and the School Physiology Journal for all teachers in the state. Teachers and educators generally show an increase in sympathy and a growing interest in this study. In the great state of Illinois where the new law has gone into satisfactory enforcement the past year, only two towns are reported as at all disposed to contest the law.

New York, the storm centre of opposition three years ago, tells of almost nothing but good in the operation and results of her stringent new law. Over half a million less barrels of beer were sold in New York state last year than the year before, but it will never do for that state to rest on its laurels. The enemy is alert to prevent this decrease in their gains, and constant vigilance is necessary.

The crying need of the work to-day is an appropriation in each state which at least will not be pitifully inadequate to the demands. Let us realize that it is a fatal prodigality which seeks to economize on our children.

The question of how soon the end will come to the reign of alcohol, depends for its answer upon your faithfulness and mine to this temperance educational work in the schools. I repeat, we need to do other forms of temperance work, but does not the history of the past ten years, as here presented, show that when we are doing everything else to the neglect of scientific temperance, we are neglecting to use the weapons without which our war against alcohol is in vain?

You are called of God to do battle with brewers and distillers for the souls of the children. Every error on this subject God wants dispelled with truth. If you are unfaithful to your great responsibility the brewers will not lose a customer, but you will have lost your boy. Eternal vigilance is the price of liberty from the bondage of alcohol.

Never did the loftiest motives that can move the patriot appeal as now for faithfulness to this great cause. As a nation we are facing a new departure. New responsibilities have come to us which we can not shirk if we would. Unless I mistake the spirit of my countrymen, the motives with regard to our new possessions which have led us on to this hour have been, not what we may gain for ourselves from Cuba, Porto Rico, Hawaii and the Philippines, but what we may be able to do for them as sharers in our civil and political liberties, our education, our freedom in religion, and in the chance in life which is the American citizen's heritage. The liquor traffic represents unmitigated selfishness; it considers only what it can make for itself without regard to the human ruin that follows every dollar of its gains. Its extension into our new possessions means the swift destruction of those peoples for whom our sons faced the Moloch of war.

The God of nations is calling to us so to educate our people that this calamity may be averted from those for whom we are newly responsible, as we at the same time save our own children.

Mary H. Hunt.

Primary Lessons.

First Year Work.

GRAINS.

Material for the lesson—wheat, oats, rye, barley, corn and rice in small boxes or bottles, an ear of corn, stalks of wheat, oats and other grains; pictures of the different grains growing, of mills where the grains are prepared, of bakeries, or of a home kitchen.

1.—Right Use of Grains.

BEGIN the first lesson by telling the children about

The Field of Gold.

Little Helen took a journey with her parents one summer. They traveled westward from Boston until they came to Wisconsin, where Aunt Jean lived. I wish you could have seen the "Happy Valley," Aunt Jean's home. The green fields were full of lovely flowers; the little river ran along over the yellow sands, laughing softly to itself; there were groves of forest trees with great bowers of fern underneath, and all about the valley were beautiful hills.

On some of these hills the sheep grazed, up others forest trees climbed. There was one great hill opposite the house that seemed to Helen the most wonderful thing she had ever seen.

"O mother," she cried, "it is all gold! It moves, is it alive?"

"It is a field of wheat, my dear," replied Mrs. Lyon. "It is nearly ripe. To-morrow we will go to see it."

The next day Mrs. Lyon and Helen walked over to the wheat field.

"Why, it's something like grass," said the little girl when they drew near.

"It is a kind of grass," replied the mother.

She broke a stalk and they sat down under a tree to examine it.

She showed Helen the little hard grains each with its husk-coat, and then told her that when these grains were crushed, flour was made from them—flour that we use for our daily bread.

One day when they were out driving Helen saw another field.

"There's some more wheat," she cried, "only it's green instead of gold."

"That is rye," said her mother, "another kind of grass full of seeds out of which we make flour."

"O I'd like some rye bread," said Helen, "how does it taste?"

That night Helen went with John the farmer to drive in the cows. She stopped at his cottage and had some rye bread and fresh milk for her supper. It tasted so good—better than cake or pie, she thought.

When she returned home she was never weary of saying, "I saw a field of gold when I was in Wisconsin. It was ripe, golden grain climbing up a hill toward the sky." When anything was said about good things to eat, Helen would shake her curly head wisely and say, "You never have driven the cows home and had rye bread and warm milk for your supper in the farmer's cottage."

Teacher—"How many of you have ever seen wheat growing?"

In many sections of the country the children will be familiar with fields of grain. If such is the case in your school, ask the pupils to describe a wheat field, the harvesting and threshing. If not, show them pictures of these scenes and specimens of the dried grains in the ear and out of it.

Teacher—holding up a vial of oats—"Here are some seeds that are very useful. Old Tom out in the stall is just as fond of them as some little people I know."

Percy—"Why, those are oats—we don't eat oats."

Mabel—"But we eat oatmeal! I do, every morning."

Douglas—"My grandma lived in Scotland when she was a little girl, and all the bread she had, except at Christmas, was oat cakes—scones, she called them."

Teacher—"Our kind Father in heaven gives every country seeds of some kind, that may be ground into flour to make bread. In this country we have several kinds. Tell me the name of each as I show it to you"—holding up the wheat stalk, then rye, oats—"what do we make from these grains?"

After some discussion, the idea is developed that all these grains are food-producing, and that bread is the result. This statement is written on the board:

Grains { wheat, rye, oats.

They give us food. We make bread from them.

Teacher—"We have still other kinds of grain. What is this?"

Inez—"That is corn. I like to pop corn."

Herbert—"I like Johnny-cake. My grandma makes it for me."

Teacher—"Here is another kind of grain. Does any one know it? I like it very much in soups. It is barley. This kind my mother always called pearl-barley, because the grains when cooked were as white and shining and just the same shape as pearls.

"Here is a picture I want to show you. It is the picture of a rice field.

"Do you see those men working half way up to their knees in mud and water? They are cultivating rice. Katherine, find the rice in our specimens. In some hot countries across the sea, millions of people live on little else but rice."

"Now let us add corn and rice to our list and we have the chief grains; those that feed the greatest number of people. As I name each I want some child to come and hold up what I name: Wheat, rye, oats, barley, corn, rice."

2.—Wrong Use of Grains.

Ask the children what they like best to eat. The answers will range from ice-cream to mince pie. Then ask what they would choose if they could have but one thing to eat. Here the answers will vary amusingly, and the teacher must be prepared to have such things as candy, cake, pie or even soda water given with full faith and great earnestness.

Talk with the children until they see that bread from the various grains is really the "staff of life" and does most to build up and nourish the body. The following story shows the perversion of this noble gift:

Two Heads of Rye.

Near Jenny's home was a pretty field of rye. Jenny liked to watch it from the moment the first blades peeped from the soil until the heads were bending down heavy with the ripe grains within. In the midst of the field were two little heads that liked to play together. As the breeze rocked them they would cross their stems and whisper, whisper, all about the sunshine, or the blue sky, or the birds flying over that almost touched them. One day they saw Jenny running through the field, and after that they could talk of nothing else, think of nothing else but the little girl.

"What blue eyes she has," said one head.

"What golden hair," said the other.

"Her step is almost as light as the wind," said the first head.

"I wish she would stay by us always," sighed the second.

Harvest time came and the rye was gathered in. Now I have something to say that makes me very sad. With winter a great trouble visited Jenny's home. Her mother's cheek grew pale and her eyes dim with weeping. Little Jenny lost her bright color and plump cheeks. The father whom they had loved so much was now seldom at home, and when he did return to his wife and little one, there was more fear than joy in their hearts.

During the summer Jenny used to look at the waving fields and sing,

> By and by, pretty rye,
> Bread you'll give to Jenny.

Now the rye had gone, but it made no bread for the dear little girl. At last a night came when there was nothing to eat in the house—not even a fragment of cold oat or rye cake. Jenny and her mother went hungry to bed but not to sleep. Pretty soon they heard some one coming up the path shouting and singing. Jenny began to cry for she knew what it meant. Her mother jumped up and seizing the blanket ran up the ladder into the little attic with Jenny. There they lay cold and trembling until the morning dawned. Poor little Jenny!

The rye had been made into a bad drink which her father had learned to like. That is why Jenny was cold and hungry and afraid.

In similar ways show the children that barley is made into beer, and that various drinks are prepared from other grains. Show that what God meant for food is thus turned into a poison.

3.—Why Beer, Rum and Whiskey are Bad.

Olga was a very little girl who had just begun going to school. She had a round pink face that was always shining with pleasure, bright blue eyes, and flaxen hair braided in two little tails and tied with pink ribbon.

Olga liked everything in school and tried heartily to follow her teacher's directions. Whenever a song was sung or a game played, Olga's little face was like a sunbeam. At first she learned the new words quickly and her number lesson was no trouble to her as it is to so many children.

But after a few weeks one thing puzzled Miss Angier. Every afternoon Olga seemed sleepy. She yawned over her primer and nodded in the writing exercise, and her lessons were not learned so easily as before. Every day before three o'clock the little head would be on her desk and when recess came some child would say, "Olga's asleep again."

Miss Angier did not know what to do. She found out that her little pupil went to bed early and slept well during the night. What could be the trouble? At last a thought came to her. "Olga dear," she asked one day, "what do you eat at noon?"

"Bread and beer," replied Olga. "We have

our dinner at night when father gets home, since he's been working in the mill."

"Ah," thought the teacher, "I think I know now what makes Olga sleepy, and why it takes her so long to get her lessons."

She wrote a note to the child's mother and said:

DEAR MRS. GRIMM:

Our little Olga seems very sleepy every afternoon and can not do her work. I should be very glad if you did not give her beer at noon, for I think that is the trouble.

Very truly,

ALICE ANGIER.

This answer came back:

DEAR TEACHER:

We will try go without the beer. You so good to my child.

Yours truly,

CHRISTINA GRIMM.

So Olga had fruit with her bread at noon, and Miss Angier was pleased to see that she went to sleep no more but was as wide awake as any one.

Teacher—"Tell me one reason why beer is bad for us."

Hugh—"It makes us sleepy."

Teacher—"Yes, and it makes people very fat. Now to be very fat does not mean to be strong.

"What keeps us warm, children?"

Class—"The food we eat."

Teacher—"The good part of our food is carried all over our bodies in the blood. Now beer, whiskey and rum make us feel warm for a little while, but they make the blood so thin that afterward we feel colder.

"When very cold weather comes, drinking people always suffer more than others. Now I'll write four stories on the board. See if you can read them:

Beer makes us grow fat.

All strong drink makes the blood thin, so we feel the cold quickly.

Beer makes us dull and sleepy.

Beer keeps us from doing our work quickly and well.

"Holy night! 'peaceful night!
Thro' the darkness beams a light."

Teacher—"There are other reasons why beer, whiskey and rum are bad. What do they contain?"

Percy—"Alcohol, and alcohol is a poison."

Teacher—"When people drink, the alcohol hurts the parts of the body which have work to do. The heart beats faster than it should, and sometimes a case of fat forms about it. In time this kills. Good food builds up the body and makes it stronger. Alcohol tears down the body and spoils the health. Let us add this to our list:

All strong drink tears down the body and spoils the health.

Teacher—"Why was Jenny afraid of her father? I will tell you. He had been drinking; when he was in this condition he would be very cross, perhaps strike her, and she and her mother always tried to keep out of his way. Poor little Jenny! Do you not suppose that she hated the poison that changed her dear father into a cross, angry man?"

Strong drink makes
us cross and angry.
Sometimes it makes
people hurt others.

Teacher—"One day Jenny came to school barefooted. Her father had carried away her shoes to sell for liquor. He used to love his little girl, but alcohol had so changed him that he no longer cared for her.

"Do you not think we ought to keep far away from a poison that does so much harm? Is it safe to drink just a little? When we are sliding down hill is it easy to stop after we get started?

"What is the safest way?"

Of all alcoholic drinks, the most dangerous is beer, because no other is taken in such quantities.—GUSTAV BUNGE, M.D., Basle.

Most drunkards commence on beer and wine, and finally drink stronger beverages. A beer drunk is the worst kind of a drunk.—L. D. MASON, M.D.

Alcohol, not in strong liquors alone but in the diluted kinds as beer and wine, is a poison.—AUGUST FOREL, M.D., Zurich.

PROGRESS.

"Strange indeed
The shadowed pathways that lead up to light.
But as a runner sometimes will recede
That so he may accumulate his might,
Then with a will that needs must be obeyed
Rushes, resistless, to his goal with ease;
So the new world seems now to retrograde—
Slips back to war, that it may speed to peace.
And in that backward step it gathers force
For the triumphant finish of its course."

A TALK ON ARBITRATION.

BY ALICE MAY DOUGLAS.

IT was recess, and several boys and girls were gathered about their desks engaged in conversation.

"May I ask what that is?" inquired Harold Holt, pointing to a bit of white ribbon bearing the picture of a dove which Carrie Wise was wearing.

"Oh, some of the girls in our neighborhood have a reading club," answered Carrie. "We spend a month upon a subject and wear a badge to represent it. Our subject this month is Arbitration, and this is the badge. The dove is the emblem of peace, you know."

"I shouldn't think Arbitration would be a very interesting study," observed Fred Collier.

"Oh, it is," cried his cousin Julia, enthusiastically. "I belong to the club, and you would be surprised to know how entertaining we find this subject. Arbitration is the great reform of the future, and I think it is ever so much nicer for our reading to be connected with the future than with the dead past."

"So do I," acquiesced Carrie. "Arbitration makes me think of that horse we learned of in our Virgil last week. It was supposed to be an image of a horse, but was found to contain a whole army. Now every one seems to think that Arbitration is a single reform, but they will find it contains a whole army of reforms."

"My, how eloquent you are getting!" laughed Carrie's brother Edward. "Suppose you tell us what some of those reforms are."

"To begin with," replied Carrie, "Arbitration will bring reform into the industrial world. Think of the thousands of men—the ablest bodied men too—who all over the world are taken from the workshop and put into standing armies, where they lead lives of comparative idleness. It is easy enough to see how much better it would be to have them earning their money elsewhere.

"When Aunt Mary was in Germany last summer, she saw women harnessed with dogs to draw the vegetables to market. They did the plowing too, and raised the crops they sold, because the men and horses were needed in the army. I wonder how American women would like that?"

"Arbitration would work a financial reform also," ventured Rufus Clark; "for when it comes, nations won't have to spend their millions in constructing forts, battle ships, fire arms and ammunition; or in maintaining standing armies, and conducting wars. The cost of settling troubles by arbitration will be infinitely less, and will consist merely of salaries, traveling expenses and the general support of a headquarters."

"Then I'm in for Arbitration," observed Fred dryly, "for I'm the one who looks out for the cents every time; but what are the other reforms in the Arbitration horse?"

"Temperance," returned Carrie. "Hundreds of men, removed from the influence of home and coming in contact with evil associates, learn to drink in the army. Then there are scores of other blessings that Arbitration will bring. If you wish to know what they are just look at the evils of warfare and think what their opposites would be."

"Well, I for one, will be glad when Arbitration takes the place of warfare," remarked Rufus; "for it always seemed to me so unreasonable for men who have never had any personal quarrel to try to kill each other because their countries have had some dispute. It is ever so much more manly for a few representative men to meet and settle the trouble without bloodshed. Every difficulty that causes a war is finally settled by reason—that is, by a treaty—so I don't see that there is need of battles any way."

"I'll give my vote for Arbitration too, said Julia;" for to sum up everything, Arbitration leaves men as strong as it found them. It does not demand a single life, and it destroys no property. It lowers no one's morals, it breaks no commandment of the Decalogue, and it does not cause such harsh feelings as does warfare."

"Well, when will Arbitration be a reality?" asked Harold.

"When people have been taught as much about it as they have about military matters," replied Carrie. "When authors begin to write about the beauty of peace, and when the subject of Arbitration is given a place in the schools as it now is in at least one college. All that Arbitration needs is a fair chance, and that it has never had. Of course it won't displace the military system at once, the work will be gradual; but if as an initial step, the civilized governments of the world would take one half their annual allowance for military purposes and spend it on a court of arbitration, it would come on apace."

"So it would," assented Rufus. "When the most advanced nations take the lead, others

will follow. Then the birds can build their nests in the cannon's mouth and people will stop calling us boys 'food for cannon,' and in the next century men will wonder how those who were sane could have gone to battle, and hacked one another to pieces as if they had no nerves. But there is the bell."

The young people now sought their various places in the school-room. The conversation however, was resumed at the close of the session, and there were several new applicants for membership in the reading club.

Warfare or Arbitration?

Warfare appeals to man's revenge; Arbitration to man's reason.

Warfare is might minus right. Arbitration is true might plus right.

PEACE DEPARTMENT.

TWENTY-SIX states, one territory, and the District of Columbia are organized for work under the auspices of the National Woman's Christian Temperance Union department of peace and arbitration. Mrs. Hannah J. Bailey of Winthrop, Maine, is the national superintendent. Special lecturers and local workers are devoting much effort to promulgating the principles of peace among all classes, but especially among children. Peace bands are organized, literature published, notably The Acorn, a valuable juvenile monthly paper, and the public press is utilized in those states that have adopted the department. Ministers are invited to preach peace sermons, especially on Peace Day, the third Sabbath in December. The attention of teachers is called to the article on Arbitration found on the preceding page as suggestive for special day exercises in the school-room. Students may be asked to write essays on the subject, and debating clubs asked to discuss the topic, thus hastening the time prophesied, when men shall learn war no more, and the prediction of the poet shall come to pass:

"A parliament of man
A federation of the world."

Repose in Egypt. Merson.

Warfare belongs to the barbarous ages of the past; Arbitration to the enlightened present and future.

Warfare is Satan's way of dealing with difficulties; Arbitration is God's way.

Why Not?

Every war is finally settled by Arbitration—that is, by a treaty of peace.

Why not have this treaty first instead of last, and thus save the great sacrifice of property and life?

Everybody believes in Arbitration under certain circumstances. If Arbitration is practicable for one national or international difficulty, why not for all?

All believe that Arbitration will come in time, but why are not all working to hasten that time?

PEACEMAKER'S PLEDGE.

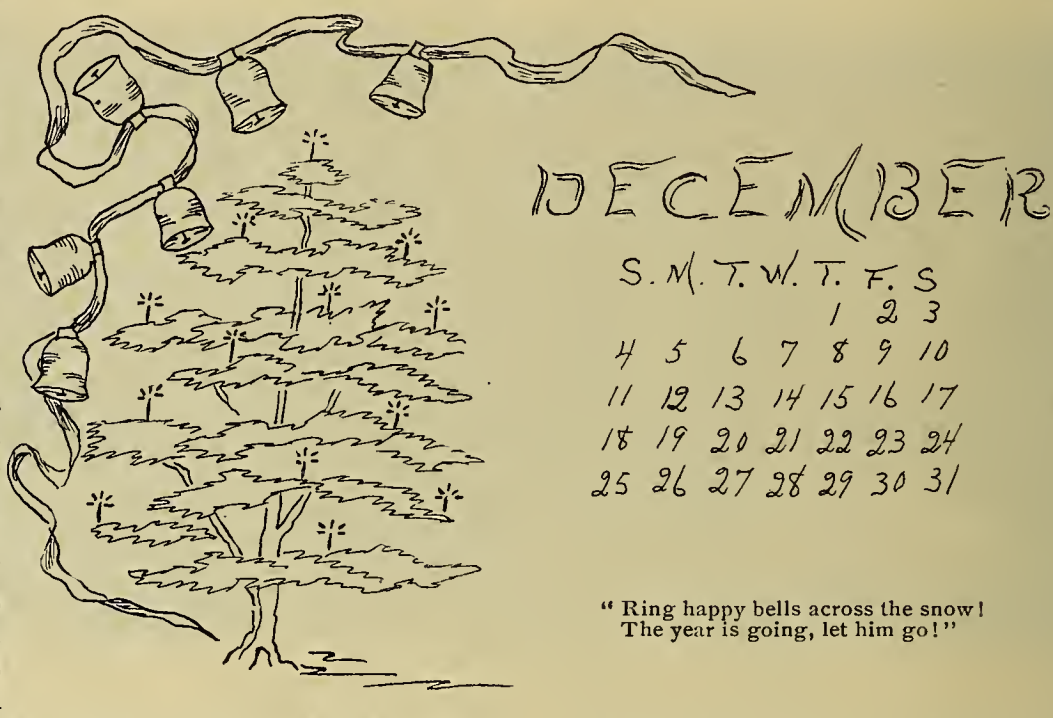
I promise by the help of God, to live as peaceably as possible with everybody, and to try to induce others to do the same.

Such as are thy habitual thoughts, such also will be the character of thy mind; for the soul is dyed by the thought.—Marcus Antoninus.

WATER-DRINKING.

MANY people have a notion that the drinking of water in any amount beyond that actually necessary to quench thirst is injurious, and acting on this belief they endeavor to drink as little as possible. The notion however, is wide of the truth. Drinking freely of pure water is a most efficacious means not only of preserving health, but often of restoring it when failing.

All the tissues of the body need water, and water in abundance is necessary also for the proper performance of every vital function. Cleanliness of the tissues within the body is as necessary to health and comfort as cleanliness of the skin, and water tends to insure the one as truly as it does the other. It dissolves the waste material, which would otherwise collect in the body, and removes it in the various excretions.


DECEMBER
S. M. T. W. T. F. S
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11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31
"Ring happy bells across the snow!
The year is going, let him go!"

These waste materials are often actual poisons, and many a headache, many rheumatic pains and aches, many sleepless nights and listless days, and many attacks of the "blues" are due solely to the circulation in the blood, or deposit in the tissues of these waste materials, which can not be got rid of because of an insufficient supply of water.

Water is accused of making fat, and people with a tendency to corpulence avoid it for that reason. But this is not strictly true. It does undoubtedly often increase the weight, but it does so because it improves the digestion and therefore more of the food eaten is utilized and turned into fat and flesh. Excessive fat is not a sign of health but of faulty digestion and assimilation, and systematic water-drinking is often employed as a means of reducing the superfluous fat—which it sometimes does with astonishing rapidity.—[Youth's Companion.

The expectations of life depend on diligence; the mechanic that would perfect his work must first sharpen his tools.—CONFUCIUS.

BEER.

IS beer of any value in sickness or health? No; beer is only a dirty decoction of germ-infested malt. It is fairly alive with germs of many kinds—those derived from the malt, those furnished by the yeast, and those which came along with the dirty water generally used by brewers, which is nothing more nor less, in the majority of cases, than the public water supply, or some worse supply; yet thousands of people drink beer because the water is bad. Bad water flavored with alcohol and hops retains all its original depravity, with added power for mischief.

The only essential difference between the various kinds of beer is in the amount of alcohol which they contain. The average proportion is three to five per cent. Some of the small beers contain not more than half of one per cent. when freshly made, but the sum steadily increases for a number of days, and may become two or three per cent. within a week. Root beer, which is quite largely used by temperance people, is no exception to the rule. The same is true of all beers or other beverages which are made by the aid of fermentation. Alcohol is the product of the yeast-plant, and is the result of the decomposition of sugar into carbonic acid gas and alcohol. If alcohol is capable of benefitting any living organism, it would seem that it might be of service to the yeast-plant, which makes it; but instead of this, recent careful experiments upon the subject have shown that alcohol manifests poisonous effects upon the yeast-plant in so small amounts as one-thousandth of one per cent., or one part in one hundred thousand parts of water. There is no condition of the human body in which alcohol is wholesome. It is always a poison.—[Christian Commonwealth.

"Do not wait for public sentiment to lead you, but strike out and make public sentiment."

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CHRISTMAS GREETINGS to all readers of the JOURNAL.

DUTY DETERMINES DESTINY.

"DUTY determines destiny," says President McKinley. It has been the legal duty of nearly all school boards and teachers in our country to see that all pupils in all public schools were taught the nature and effects of alcoholic drinks and other narcotics, together with other laws of health. The way in which they have performed that duty has determined the destiny of many a pupil who joined our army to fight for the freedom of Cuba and those other islands of the sea over which our flag now floats.

The soldier who was taught in his school days, as the law required, the evil nature and effects of beer and other alcoholic liquors, was not often a patron of the canteen and did not thereby lose his power to resist malaria and other diseases, but lived to come home from camp and field. Truly has duty performed or neglected by our school boards and teachers determined destiny for our soldiers as well as for our nation.

One of our correspondents from Ohio reports the story of a high school boy from Medina who went to the war and became very ill with typhoid fever. The surgeon prescribed brandy. He refused to touch it saying that he had learned at school what it would do. The nurse wrote to the boy's mother who left it to him to decide. He still refused and recovered.

As an illustration of what this study is doing for the children of this country, a ten year old boy in Louisiana recently said: "I've studied temperance physiology; nobody need be afraid of my becoming a drunkard. I'll never take anything if I know it, that makes me weak and sickly and stupid, for I want to stand at the head, and I want to be strong so that I can whip the other fellow if he jumps on me, you know."

This boy represents the typical, peace-loving American, who is strong in obedience to natural law, and fully able to defend himself, if defend he must.

EPOCH-MAKING EVENTS.

WHEN we look steadily at the evils of our own times we may be inclined to feel discouraged, but a wider outlook inspires the loftiest hopes for the future, as we see the march of human progress through the centuries.

Before the seventeenth century the peasants of Russia wandered from place to place working as laborers on the estates of petty princes. By thus frequently changing place they avoided all taxes and made the taking of a census, on which taxes could be levied, impossible.

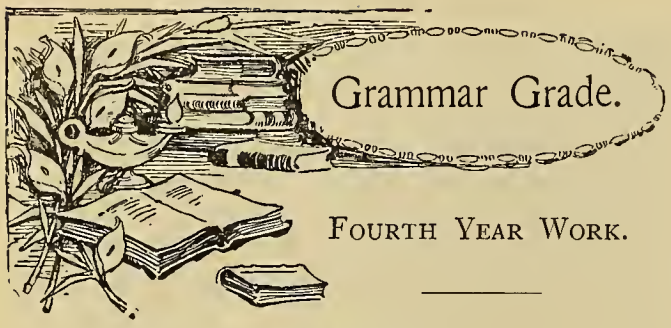
To prevent this, the reigning Tsar at the close of the sixteenth century issued a ukase or edict that Russian peasants should forever after remain upon the land where this ukase found them, and be bought and sold with it. Thus the great body of the people of Russia became the serfs of the few who occupied the land, and they so continued for two hundred years. Alexander II., the noble-minded sovereign of Russia in 1861, not only ordered the emancipation of the serfs, but gave to each man of them a small number of acres of land, with a house and a bit of orchard attached. This emancipation was gradual, and not accomplished until 1863, the same year that slavery was abolished in the United States as a result of our civil war. And now human chattel slavery is legally abolished throughout the civilized world.

How hopeless this result seemed to the anti-slavery agitators, only those who remember the dark days of that struggle can understand.

Last August the present Tsar of Russia went to Moscow to unveil a statue of his grandfather, Alexander II. Before he started, he left a document as remarkable as the emancipation proclamation of the ancestor he was about to honor. It was no other than a call to all nations to a conference to consider the possibility of the maintenance of a general peace, and the consequent disarmament of all the countries of the earth. It takes no seer to note this as another epoch-making event.

A nation can be great without the mournful achievements of the sword. If the twentieth century beholds "the swords beaten into ploughshares and the spears into pruning hooks," while "the war drum throbs no longer, and the battle flags are furled," such achievement in human progress will not eclipse those of the now almost expiring nineteenth century. The ravages of war, famine and pestilence combined, do not equal those of alcohol and other narcotics. These too must be abolished from human habits before the ideal life of the individual or nation is reached.

Long before the close of the twentieth century the faithful teachers of scientific temperance will be honored as among the greatest of earth's liberators.



FOURTH YEAR WORK.

THE BRAIN.

PHYSIOLOGISTS assure us that the majority of people have many undeveloped spots in their brains, and one has only to look about him on either hand to find this statement confirmed. The difference between the able person and him who falters when confronted by emergencies does not lie in motive alone. The sidewalk may be filled with well intentioned people as a runaway horse tears down the street, but only one in a hundred thinks quickly enough to save the cripple or helpless child from those maddened hoofs. Brain tracts develop early. If it is true, as has been asserted, that one rarely gets an entirely new idea into his head after thirty, and that after that time he may but develop ideas along lines previously indicated, early education of the brain becomes imperative.

The brain has two great functions to perform, sensory and motor. It registers impressions brought to it by the different nerves of sense, and through the nervous system it sets in motion and controls every muscle in the body. Both these functions must be trained and developed in the growing child, if the brain power of future generations is to be commensurate with their responsibilities and opportunities.

THE LESSON.

Write on the board the name of the superintendent of some large railway in your state. Ask the class why such an officer is needed, what are some of the things he has to do, and what he has to know and plan for in arranging for the many trains on his road.

Tell your pupils that the body too has a general manager to control all its parts; to make the arm or foot move just as we wish, to keep the heart beating and to regulate every movement of the body. Send each pupil to his textbook to find out the name of this great controlling organ. In addition ask all to find out for their next lesson:

In what part of the body this important organ is placed.

How it is protected from harm.

PROTECTION OF THE BRAIN.

When ready to begin the recitation, put on the board two drawings; one oval in shape like the human head, the other square or oblong with sharp corners. Let the class decide which shape looks better; which offers better protection to the brain inside.

Ask how many have ever watched carpenters putting up a new house. Find out whether such pupils have noticed the filling put in between the upper and lower stories. If not, describe this to them and ask what good it does. Have ready for their examination cross sections of bone showing the spongy layer. After they have looked at it carefully, ask why this is a better protection to the brain than solid bone would be. Help them to see that this layer of bone answers the same purpose to the head that filling does between the ceiling and upper floor of a house, deadening sound, and giving protection from jars and blows.

The class should now be able to gather into sentence form the two facts thus brought out:

The shape and the texture of the skull protect the brain from harm.

For a second lesson the class may be asked to find out from their textbooks:

What the brain looks like.

The reasons for its many folds and wrinkles.

APPEARANCE OF THE BRAIN.

Ask all to find pictures of the brain in their textbooks, and from these to describe its shape and appearance. Interest will be enhanced by asking one pupil after another to point out resemblances between the brain and the meat of an English walnut. They will know from their textbook study that the brain is wrinkled and folded much like this nut; that it also has two layers, a gray layer on the outside, and a white layer within; and that it is kept safe from harm in its bony cradle much as the nut is packed away in the shell. Explain however, that the brain is not hard like a walnut meat, but very soft and delicate.

Get as many different opinions as possible regarding the peculiarly wrinkled appearance of the brain. Several may have right ideas on the subject. If no one can tell, illustrate one reason by asking one of the class to put a large sheet of paper into a hat or small box. To do so he will be obliged to crumple the paper a good deal, and will thus find out that the brain too takes up less room because of its many folds.

Tell the class that a more important reason for the wrinkles in the brain is because of the way it is used. Ask somebody to tell you why people's faces are sometimes wrinkled. A little thinking will show that wrinkles come when one frowns often, or gets into the habit of raising his eyebrows. Explain that folds or wrinkles in the brain are produced in much the same manner; that a baby's brain is nearly

smooth while the brain of a person who thinks and studies hard is very deeply wrinkled.

Ask the class what changes take place in a child's arm as he becomes a man. They will tell you that it grows larger and longer, that the flesh becomes hard, the muscle firm, and the skin tough.

Let them next describe how the head changes its appearance during this time. Explain that the difference in size here is not so great, because as the brain grows it gets more wrinkled and thus takes up less room than if it were spread out flat. Tell the class that every time the brain is used these wrinkles grow a little deeper, and it is easier to do this same thing next time; and that when we have done a thing many times, we call it a habit. Prove to them that things become easier through repetition, by asking them to work some problem in arithmetic which they found difficult last year but which is now solved almost without thinking. Each pupil may now be asked to name something else which is hard work at first but easy after it has been done many times; such as walking, skating, playing the piano, reading, sewing.

Hofmann.

Head of Christ.

When a good list has been given, ask if any one knows why all these things were difficult to begin with but easy afterward. Probably no one can tell. Illustrate by calling attention to the fact that a sleigh runs better after a good track has been made than it did the first time it went through the snow, because there is less resistance to the runners.

Tell them next, that much the same thing is true in the case of the brain; that when we think about the same thing many times, or do the same thing over and over, the wrinkles in our brains grow a little deeper and it is thus easier for our thoughts to go over the same path next time.

With the knowledge in mind that every lesson learned makes the next lesson easier, every command obeyed makes it easier to obey next time, ask the children what kind of thoughts they will need to have, what they should study, and how they should act in order to form the kind of habits they will wish to have when they are men and women.

For a third lesson assign these questions:

How does the brain find out what each part of the body needs?

How does it direct the movements of the body?

Work of the Brain.

Write on the board the names of five towns near your own and ask the class what arrangement they would make for communicating with these places if they had messages to send to each a hundred times a day. If a telephone or telegraph is suggested, find out what the class know about the length of time needed to send messages in this way. Then compare the brain to a central office from which messages go out every moment while we are awake, telling us where to walk, when to study our lessons, how to write a letter, or do anything else we wish.

Find out whether any one can tell how we know when and how to do all these things, when the brain is always shut up closely in the skull. If no one can give a direct answer at once, ask such definite questions as these:

How do we know whether the morning is bright or cloudy? whether the birds are singing? whether the wind blows? how a rose smells? how chestnuts taste? whether we are warm or cold?

Continue with questions of this sort until the class fully understand that there are five ways in which we may find out about things and know what is going on in the world. Let them try to think of other ways of obtaining information than through these five senses, until they are convinced that they must depend upon these organs for what they wish to know.

Call the attention of the class next to the way in which what we see, and hear, and find out through each of our senses, gets to the brain. This may be done best perhaps, by showing a picture of the nervous system with nerves reaching from the eyes, nose, mouth, ears and skin to the brain; then by comparing these nerves to the telegraph wires before spoken of. When they understand that everything we find out must first travel over these little nerve wires to the brain, write the name of these nerves on the board in sentence form thus:

The *sensory* nerves carry messages to the brain from each of the organs of special sense.

The next thing for all to think about should be how motion is produced in different parts of the body. If the subject of muscles has been previously studied in this grade, the class will have learned that every part of the body is moved by the contraction of a particular set of muscles. If they do not know this, explain it briefly and show how some of the muscles work; those in the lips for instance, when we whistle, and those of the eyelids when we wink. Then ask the class how these muscles know when to move. Point again to the chart of the nervous system already shown, and from it show that there are nerves leading away from the brain to every part of the body as well as to this organ, and that their work is to make each muscle move at just the right time. Then write the name of these nerves on the board:

The *motor* nerves carry messages from the brain to the muscles which move the different parts of the body.

What the Brain Needs.

When the class realize that the brain is not only the organ of thought but the agent by which every motion which we wish to make is brought about, they will know at once that it must have special care. Ask who can tell what is most needed to make this organ grow and to keep it in a healthy condition. Food will undoubtedly be named as the first essential. Review this subject briefly by sending some one to the chart to show how what is eaten gets to the brain. Call upon a second pupil to tell how much of the blood in the body is needed by the brain at any one time. This will indicate what a large quantity of food is required by this busy organ in order to do its work properly. Other essentials to the growth and care of the brain should now be called for from the class, together with reasons from the textbooks why each is necessary.

Pupils of this grade should not leave their study of the brain without first knowing enough of the injurious effects of narcotics upon this most delicate organ of the body to prevent them from ever beginning to use those poisons through ignorance.

Assign the following questions for a lesson on this topic:

Why do alcoholic drinks hurt the brain more than any other part of the body?

In what ways is the brain that has been injured by alcohol different from a healthy brain?

Why do boys who use tobacco find it almost impossible to keep up with their classes?

After obtaining from the class such answers as they have been able to find, hold up a silver watch and a silver dollar. Ask why the watch would probably be broken, while the dollar would remain uninjured if both should be dropped to the floor. Their answers will show that the watch is made up of many parts very delicately put together, and that even a slight shock is often enough to disarrange these parts and stop the machinery. Explain that the brain is the most delicate part of the body, and that this is one reason why a poison like alcohol hurts the brain and gets it out of order more quickly than it does other parts which are tougher and stronger.

Call upon several pupils in turn to trace the course of alcohol, as taken in a glass of beer or cider, from the time it is swallowed until it reaches the brain. Then put on the board the statement already learned, that one-fifth of all the blood in the body is constantly passing through the brain. This will show another reason why alcoholic drinks are specially harmful to this organ — because so much of the poison they contain is brought to it.

A good way to answer the second question will be to leave spaces on the board for two columns; the first for statements of what the healthy brain can do, the second to show how alcoholic drinks may so hurt the brain as to make it unable to do these things. The following will serve as an illustration:

With a Healthy Brain

We can stand upright or walk steadily.
We think and act quickly.
We are likely to have good, clear thoughts.
We know better than to fight or quarrel.

With a Brain Hurt by Alcohol

We stand and walk unsteadily.
We think and act slowly.
We often have bad, confused thoughts.
We are often foolish and quarrelsome.

Let the class add to these lists everything learned from their textbooks on these points, and also all similar facts given in the appended quotations.

The last question should receive special attention. Handle it very delicately if there are boys in your class who already use tobacco, but make it particularly clear to them that no young

person can do good brain work unless he feeds his brain instead of starving and poisoning it; and that it would be as difficult for a boy who smokes cigarettes to reach the head of his class or succeed in any difficult undertaking, as for a horse to win in a race after he had been given some narcotic to dull his brain and blur his eyesight.

Talk over the tobacco question privately with boys addicted to the habit and ask them to give their brains a fair trial for a week, a month, a year, without tobacco in any form; and see if these abused organs do not quickly respond in making study easier, and both work and play a delight.

AUTHORITATIVE QUOTATIONS.

Savages Have Small Brains.

Already the brain of the civilized man is larger by nearly thirty per cent. than the brain of the savage.—M. L. Holbrook, M.D.

Effort Develops Brain Power.

Physical effort with a definite purpose in view is worth more in developing the brain than meaningless activity. If the brain is thus developed, the acquisition of knowledge will be rapid and the judgment well balanced.—[Dietetic and Hygienic Gazette.

Brain Workers Live Long.

When the brain is cultivated the health improves as the individual grows older. This also explains the longer life and greater resistance to disease of the temperate brain worker. —[Dietetic and Hygienic Gazette.

Thinking Wears Out the Brain.

Every muscular effort means death and the production of waste material to be gotten rid of. Every time one thinks it means that the brain is more or less worn and wasted.—[Journal of Hygiene.

Oxygen Renews the Brain Cells.

In getting abundance of air as a brain food into the system by suitable exercise, we also cause the removal of the waste which produces mental depression. Two ends are secured by one means.—M. L. Holbrook, M.D.

The Brain Most Sensitive to Alcohol.

Peculiarly susceptible is the brain to the poisonous and disorganizing action of alcohol. The nobler self is dethroned and the meaner and baser self usurps its place.—F. H. Whalmsley, M.D., Medical Supt. Metropolitan Asylum.

Alcohol Disturbs Cell Activity.

In the mind-developing areas of the cerebral cortex, the most vulnerable points to the use of alcohol are the brain cells. The circulation of even a small quantity of alcohol in the blood modifies the functional activity of the cell, and therefore for the time being disturbs its molecular arrangement. Long before any change can be detected by the microscope, molecular change has become continuous, and is removable only by a prolonged abstinence from alcohol.—A. B. Richardson, M. D.

Alcohol Hardens Nerve Cells.

The nuclei of the nerve cells are exceedingly delicate and sensitive to the hardening and coagulating effects of alcohol. These exceedingly delicate central structures of the nerve lines and cells have motion as their function. Anything that so hardens or stiffens these structures that they can not move as rapidly as before, arrests their function in proportion. Long-continued use of alcohol brings the previously intelligent man into the defective class, dependent and delinquent, cared for by friends or by the state. — J. T. Searcy, M. D.

Alcohol Affects the Brain Centers.

The principal action of alcohol is to blunt sensation and to remove what we may call the power of inhibition by blunting the higher centers of the brain.—G. Sims Woodhead, M.D.

Alcoholic Drinks Demoralize a Man.

The moderate drinker . . . is more under the control of coarse passions, is more easily irritated, more dogmatical, and more fixed in his own opinions (than the total abstainer).—Dr. August Forel, Prof. of Psychiatry at the University of Zurich.

Tobacco is a Menace to the Intellect.

The evil effects of smoking are most marked when it is indulged in in early youth, and I know from twenty-five years practice of my profession that it is more disastrous to the intellect and morals than anything else, except perhaps strong drink.—P. Cassidy, M.D.

Tobacco as Harmful to the Brain as Alcohol.

The influence of tobacco upon the brain and nervous system is hardly less than that of alcohol, and if excessively used is equally injurious. —Dr. Woodhead, of the Worcester Asylum for the Insane.

Insanity may be Caused by Tobacco.

The free use of any drug whose action is similar to that of tobacco tends to produce lunacy and various nervous diseases. In some cases tobacco is the chief and perhaps the only cause (of insanity), while in a very large number of cases it is a powerful contributive cause. —Thos. G. Roberts, M.D.

AMERICAN CIVILIZATION.

Dutch Influence.

"THE spirit of the age was present," says Bancroft, when the foundations of New York were laid. No mighty upheaval attended the advent of the Dutch, such as followed in the wake of the Spaniards in this country. They did not come to make conquests at the point of the sword; nor did they come like the New England colonists and the French Huguenots, seeking religious liberty — Hollanders before them had suffered in the torture-chamber and burned at the stake for that in their own land; nor did they come like the French Catholics, under the direct protection of the home government. Their object was trade, their foster-mother, a chartered corporation.

For generations Holland had been a nation of merchants. "Its inhabitants connected hemispheres." Amsterdam has been called "the Tyre of modern times," the "Venice of the North," and the "queen of all the seas." At home, the early settlers of New York were well-to-do burghers. Captivated by the report of Hendrick Hudson, when he returned from his voyage of 1609, and persuaded that in the new world they could better their prospects, they embarked thither to trade in furs with the Indians.

"Before the Calverts made their first settlement on the Potomac, before the Mayflower had landed her Pilgrims at Plymouth, bold navigators and enterprising merchants from Holland had taken possession of Manhattan Island where the city of New York now stands."

Having purchased the island for the value of $24.00 they proceeded to make homes for themselves. Holland has been called the mother of four states. New York state was the center of Dutch influence, the two important settlements being at New Amsterdam (New York City), and at Albany. But gradually the colonies spread over the surrounding territory, including the valleys of the Hudson and the Delaware. New York was the last of the Dutch possessions to resist the dominance of the English. New Jersey and Delaware they contested with the Swedes and Finns, and held until the later English supremacy. In Connecticut they made the earliest settlements, including Hartford, but being few in number were easily displaced. In later years many Dutch have settled in other states, especially the middle west and the vicinity of the Great Lakes, where they have become identified with manufacturing interests, but nowhere is the stamp of their nationality so pronounced as in New Netherland.

To encourage trade with the Indians great estates called manors were purchased along the banks of the Hudson, or given away as prizes for the one who should bring a certain number of permanent settlers into the colony. Some of these manors had a river frontage of thirty miles and depth indeterminate. In these days they would be of almost priceless value.

"The early Dutch settlers of Albany and its vicinity constituted a kind of landed aristocracy, and with their numerous retainers and slaves held a sort of feudal court in the grand mansions which may still be found dotted here and there in the interior of the state."

One such family, the Knickerbockers, has been immortalized in humorous fashion by Irving. Tales abound of their quaint and generous hospitality, of husking bees and quilting parties. Nor did these merchant colonists forget their religion. The old time-stained Bible with brass corners and huge brass clasps, then in use at family worship, is now an heirloom in the Knickerbocker family. Of equal interest is the old Dutch church at Sleepy Hollow, built in 1697, and probably the oldest church in the state.

"It dates back to the time when New York City was a walled and stockaded town, crowded into the lower part of Manhattan Island, its inhabitants worshipping in the little Dutch chapel in the fort, lighting their streets with lanterns hung from poles in front of every seventh house, drawing water from pumps at the street corner, and trading powder and shot with the Indians for beaver skins."

Service was always held in the Dutch language, and when at a later period English was introduced, it was considered little short of sacrilege. To the south and east of this church stretches Sleepy Hollow, and near it is the bridge over which Ichabod Crane rode, pursued by the headless horseman.

The conditions under which the Dutch settled were peculiar. The home government exercised only an indirect protection over them. All rights, and complete control of all lands claimed by the Dutch on this continent were granted by charter from the States-General to the Dutch West India Company, which at that time had ships and commercial interests in almost every quarter of the globe. "A nation of merchants gave away the leave to appropriate continents."

New Netherland did not attempt therefore, to rule itself for ten years. Governors good, bad, and indifferent were sent over by the Company, among whom the names of Jacob Leisler and Peter Stuyvesant are conspicuous. Much romantic and thrilling history clusters around the days of these governors, and the period has not been neglected by our best historians.

At first the colonists were forbidden to manufacture any woolen or cotton fabrics. "Not a

web might be woven, not a shuttle thrown, on penalty of exile. To impair the monoply of the Dutch weavers was punishable as perjury." But at so great a distance from any large center it was impossible to live by trade alone, and gradually farms began to flourish, and manufactories sprang up which helped inaugurate our wonderful industrial prosperity.

The contribution which the Dutch have made to our national life has been large and altogether wholesome. "It was for the true interest of America that New York was founded by Holland," says Mr. Brodhead. A trading people settled wisely at the mouth of the Hudson. Their business sagacity and stalwart honesty built up confidence with the Indians in early days, and in their descendants united strongly with similar qualities in the English character.

It has been asserted that the New York Dutchman cared only for his beaver skins and his broad acres, and little for spiritual concerns. If so, he belied the record of his ancestors. The descendants, only a few generations removed, of men who waged the most desperate religious conflict the world has ever known, the children of heroes and martyrs and victims of the Inquisitorial Inferno, were not likely altogether to have forgotten the teachings of those days.

A Dutch Home on Santa Claus Morning, December Sixth.

One other lesson, learned at home, the Hollander carried out in this country, that of religious toleration. Of the habitual attitude of the West India Company Bancroft writes, referring to the administration of Peter Stuyvesant:

"Did his zeal for Calvanism lead him to persecute Lutherans, he was chid for his bigotry. Did he, from hatred of 'the abominable sect of Quakers,' imprison and afterwards exile the blameless Bowne, 'Let every peaceful citizen,' wrote the directors, 'enjoy freedom of conscience; this maxim has made our city the asylum for fugitives from every land; tread in its steps and you shall be blessed.'"

The Dutch colonists were promoters of education, though behind their New England neighbors in this respect. Mrs. John King van Rensalaer, in her recent volume, Manhattan Women of Colonial Days, brings out the fact that the women of the Dutch Netherlands held a more prominent position than any of their contemporaries. Holland was the only country in which girls received the same education as boys. It was such women who accompanied their husbands to the new colonies.

Of five recent instances where attempts to economize on schools were defeated by votes of women, it is worth noting that three occurred in states or townships settled by the Dutch, one in New Jersey, another in New York, and a third in Holland, Michigan. In the last named place a short time ago,

"The question was high school or no high school. According to the newspapers a thousand Dutch mothers, ballot in hand, came to the rescue of the high schoolwhich was endangered by the ill-timed parsimony of certain Dutch fathers."

Thus we may conclude that the great-granddaughters of those colonial dames are keeping up their reputation.

We owe to Holland also, an integral part of our constitutional policy. The theory of the sovereign will of the people was not Dutch; England furnished us the idea of a popular representation.

"It was no part of the constitutional doctrines of most of the United Netherlands that the desire of the majority of the people should prevail. They were republics, were the freest lands in the world, but they were anything but democracies."

But the United Provinces were the model of

America's federal union. It is further claimed by some of our best historians that the Declaration of Independence of the United Provinces was the model of the Declaration of Independence of the colonies of North America, and that the Union of Utrecht was the exemplar of the Philadelphia Articles of Confederation. The Dutch motto, Unity Makes Might, suggested our own, E Pluribus Unum.

"The city and state which the Dutch founded form the noblest monument that could be erected in honor of the Pilgrim fathers of the Knickerbocker race, in whose veins courses the mingled blood of the Teuton, Saxon, Celt and Gaul. They gave to the new world a more enlarged vision of the rights of conscience and personal freedom than any other people; and their love of far-reaching commercial and adventurous enterprise has ever hovered like a tutelar deity over the Island of Manhattan, during all its social and political vicissitudes, and has made the city of New York the emporium of the western continent."

Two teachers stand out in my memory. One snatched my copy-book from my desk saying with impatience, "What miserable z's these are! I'm surprised at you!" and the book was thrown down upon my desk. Again, another teacher placed her hand gently upon my head, bent low and said softly: "Child, you are doing wonderfully well in this!" Her words were an inspiration. A sullen indifference will often follow blame, but a determination to do better will so often follow praise from a teacher.—[Public School Mirror.

A LITTLE PESSIMIST.

THE sad little Princess sat by the sea,
"Alas," she sighed, "and alackaday!"
And she rested her book upon her knee,
And her eyes gazed dreamily far away.

"All of my fairy tales end the same—
They lived, and they loved, and then they died—
The wicked enchanter's always to blame;
Oh, for something quite new!" she cried.

"I'm sick of my dolls with their china eyes,
I'm sick of reading of giants and things,
I'm tired to death of candies and pies,
I hate my crown and my golden rings."

And then her nurse felt of the royal head,
Looked at her tongue in a knowing way,
"Your Highness had better come home to bed,
You've eaten too many plum tarts to-day."

ISABEL DE WITTE KAPLAN,
In The Ladies' Home Journal.

TWO PRACTICAL QUESTIONS ANSWERED.

IN a set of examination papers recently issued for state certificates the following questions in physiology occur:

1. Some persons who use tobacco live to extreme old age. How should this fact be regarded?

2. Sometimes people in feeble health are bathed in alcohol.

(a) State the purpose of this kind of bath.
(b) Mention the function of the skin most employed in accomplishing it.

The information needed to reply to these questions is hardly accessible to the ordinary teacher, and considerable misapprehension has arisen as to the facts. The SCHOOL PHYSIOLOGY JOURNAL has taken pains to collate definite answers to the foregoing from the writings of six or eight of our most eminent physicians. These queries, together with the authoritative replies, will be printed in the January number of the JOURNAL, and should be read by every teacher.

We are in receipt of a copy of Clïo, a new educational game, issued by the Clïo Card Company of Minneapolis. It bristles with historical events which fascinate while they instruct, and furnishes abundant material for study and entertainment at home. The price is $1.00.

COME UP HIGHER.

I SAW the mountains stand
Silent, wonderful and grand,
When the golden light was falling
On distant dome and spire,
And I heard a low voice calling,
"Come up higher, come up higher,
From the mist of earth desire,
From the vain pursuit of pelf,
From the attitude of self;
Come up higher, come up higher—
Think not that we are cold,
Though eternal snows have crowned us;
Underneath our breasts of snow
Silver fountains sing and flow
And restore the hungry lands."

—[Selected.

PHYSIOLOGY TOPICS FOR DECEMBER.

PRIMARY—Right and wrong uses of grains; Hearing; Sight; Food; the Stomach.

INTERMEDIATE—Brain and nerves; Fermentation; Drinks containing alcohol; Muscles.

ADVANCED—Heart and circulation; Lungs and other organs of excretion; Special senses.

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"Ma," said a discouraged little Maple avenue urchin, "I ain't going to school any more." "Why, dear?" tenderly inquired his mother. "Cause tain't any use. I can never learn to spell. The teacher keeps changing words on me all the time."—[Ex.

Knowledge is a continuous becoming; it has never attained — it is always on the way. —President Schurman.

Teacher — "Parse the sentence, 'Yucatan is a peninsula.'"

Pupil (who never could understand grammar)—"Yucatan is a proper noun, nom'tive case, second person singular—"

"How do you make that out?"

"First person Icatan, second person Yucatan, third person Hecatan; plural, first person Wecatan, second per—"

"Go to your seat."—[Truth.

The old year is fast slipping back behind us. We cannot stay it if we would. We must go forth and leave our past. Let us go forth nobly. Let us go as those whom greater thoughts and greater deeds await beyond.—Phillips Brooks.

Little three-year-old Dorothy's older sister was reproving her for some trifling offense, and remarked: "Why, Dorothy, I should think you would know better!" when Dorothy wisely informed her, "Why, Florence, I'se only been born three years."—[Ex.

Anything that is of practical benefit to Mothers' Clubs is, in this day and age, very welcome. The Course of Study published in the New Crusade for March and April, 1898, was received with much enthusiasm. The Mothers' Club Helper, issued monthly by the Wood-Allen Publishing Company, Ann Arbor, Mich., will be equally well received. It contains a well-directed series of questions upon the topics presented by the Course of Study, designates Home Readings, and presents a complete program for each meeting. It is the only complete guide for Mothers' Clubs yet published. It will be invaluable.

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Mamma — "Well, Ethel, what was the text the clergyman preached from to-day?" Ethel (eight years old) — "Many are cold, but few are frozen."—[Ex.

"When a teacher in England was asked if she gave moral instruction to her scholars, she replied: 'No, I can't afford it at three pence a week.'"

The Independent

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The Independent prints more contributions from the ablest writers than any other paper in the United States.

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The School Physiology Journal

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January, 1899.

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WHAT THE BOUGHS SAID.

Last night as I strode down the frozen road
That the elm-trees bower in spring,
'Mong the boughs that stirred I thought I heard
A jubilant whispering.

"They are happy there in the frosty air,"
I said, as I sped away,
"For I haven't a doubt they are chatting about
The gowns they will don in May."

—[CLINTON SCOLLARD.

THE THREE PATHS.

A DAY DREAM.

I THOUGHT I was one of a large party of tourists journeying to some far-off region. We were halting at a hotel and arranging together for our journey on the morrow. There seemed to be three different ways of reaching our destination, and we were discussing which would prove the most pleasant, safe and expeditious.

An elderly gentleman spoke first.

"No one here I suppose would think of taking the lower path to the left?"

"Why not?" said a young man. "It looks pleasant enough, and seems easy walking."

"My dear fellow," said the old gentleman, "you would soon find the walking a great deal too easy. You slide nearly all the way, and the ravines and fearful precipices are said to be appalling. No one who values his neck would venture far on that road, and besides, you would meet none but low vulgar travellers. All sensible people, which of course includes the present company"—here the old gentleman smiled and bowed—"will I am sure choose the middle path, with its easy footway, clear air, and most charming views. I think we are all agreed on that point!"

Then a timid-looking lady mildly suggested, "I think I have been told that this middle path is not free from dangers, and that travellers have sometimes lost their way and fallen into those terrible ravines you spoke of before. Is it so?"

"My dear lady," said the old gentleman smiling cheerily, "that is only a scare for the weak-minded and timid, with little or no foundation, I assure you. Year after year thousands pass that way quite safely, if they are fairly careful and keep their wits about them. Now and then an unwary one has an awkward tumble, but if you keep well to the middle of the path you are safe as in a church."

"Are these the only paths?" still asked the lady anxiously.

"No, madam; there is a third which I should advise all to take," answered a young man who had not yet spoken. "The high path to the right is perfectly safe, and when you have got over a little uneven ground at starting, extremely pleasant. The youngest child may pass that way in safety."

"Yes," sneered the young man who spoke first, "it is fit only for children and old women. No man of the least pluck would take that path."

"Excuse me," returned the other, "I have traversed that path often, and I do not consider myself devoid of the quality you mention, but I think, sir"—turning to the elderly speaker—"you are hardly aware of the dangers of the middle path. The scenery is certainly lovely, and the air as you say, is very fine, and thousands pass tolerably safely along it; but what of the many who are tempted by the flowers and ferns growing at the side until they find the earth gradually crumbling under their feet, and are dashed from rock to rock below? I speak from bitter experience, for my only brother was one of the many victims whom I have known and loved."

There was some little silence at this. Then the old gentleman spoke again.

"Of course this is very sad, and anyone who feels at all timid about it had better take the safe route, but I must still adhere to my first notion that the path is safe enough for careful people. There are many beautiful little by-paths too, which I am told are very inviting and easy."

"Let me warn you, sir," said the young man earnestly, "against those pleasant-looking by-paths. They one and all lead down to the fearful ravines which are the terror of the lower path, and anyone following their deceitful windings must lose either his way or his life. I beg of you all to do as I intend to do—take the safe path to the right, and by so doing insure a safe journey for yourselves and set a good example to our fellow-tourists at the same time."

"I shall certainly go your way," said the lady, "for I have two little children with me, and therefore must run no risks."

So the party divided; no one started for the dangerous lower road, but the elderly gentleman with by far the greater number, took the middle path, while the lady with her children and a few young men and ladies followed their escort to the upper road.

Strangely enough, I seemed to see my travellers arrive at the end of their journey. Ah, but not all as they set out. Of those who chose the middle path some few had walked warily, and beyond a little dust and heat were apparently none the worse for their journey; but all the rest of the party had suffered more or less. In spite of their warning some had wandered down the by-paths which looked so inviting, and it was feared had slipped down to the treacherous lower path, being quite lost to the view of their anxious friends, while several were torn and bleeding by the briars and thorns, and bruised and wearied with frequent stumbles on the uneven ground. Among them was the old gentleman, his clothes soiled with the dust, and his legs shaking with fatigue, but still holding obstinately to his old notion that it was the proper path to take. Meanwhile the party from the higher path came in sight, fresh, bright and happy as when they started, with the children skipping along laden with flowers, ferns and wild fruits, and all loud in the praises of their enjoyable journey. Then I awoke, and pondered the meaning of my dream.

Three paths lie before each of us. Which are we taking? Few if any set out for the drunkard's path — the lowest and worst; but how many, taking the popular middle course of moderation, drift down the by-paths, and at last find themselves sliding into a drunkard's grave; while others escape with weakened constitutions, impaired intellect, and broken fortunes. But the high path of total abstinence is safe, right and pleasant for all of us. Let us join the ranks of earnest men and women and the thousands of little children who are thronging the higher, holier path that leads to purity and peace. — [Quoted in British Temperance Record.

Before the Committee on Territories in our National Congress last week, it was our fortune to hear the Hon. Sheldon Jackson, Superintendent of Public Instruction for Alaska, say: "Temperance education in the public schools is the only hope for sobriety in that far-away section of our country. The Pathfinder Series of books went into the schools in 1886 and they have been studied ever since. As a result, boys and girls in Alaska who would otherwise have been the victims of drink, are growing up to a sober manhood and womanhood."

What is true in Alaska is true wherever this study is faithfully taught.

In teaching your temperance physiology lessons, teachers, you are dealing with a question, not only of individual, but of national importance,—one that touches the progress of civilization in all the world. No other subject which you can present to your classes is so fraught with destiny.

RESOURCE.

SOME people never can get along without ready-made conveniences. A New Orleans paper recalls a comparison made by an uneducated old carpenter twenty years ago, and which may be applied in a much wider sense than he had in mind. He was speaking of two boys, brothers who had been sent to him to learn the trade. They were bright boys, and their father, in telling the carpenter of his pleasure at the progress they had made in their work, said he could not see but one had done just as well as the other.

"Um-m!" said the carpenter, "I presume to say their work looks about of a piece, but I'll tell you the difference betwixt those two boys. You give Ed just the right tools and he'll do a real good job; but if Cy hasn't got what he needs he'll make his own tools and say nothing about it.

"If I was cast on a desert island and wanted a box opened, I should know there'd be no use asking Ed to do it without I could point him out a hammer.

"But Cy," added the old carpenter, with a snap of his fingers, "the lack of a hammer wouldn't stump that boy! He'd have something rigged up and that box opened, if there was any open in it. I expect Cy's going to march ahead of Ed all his life."

Twenty years have proved the truth of his words; for while the boy who made his own tools is rich, his brother is still an ordinary workman.—[Pacific Ensign.

EDUCATION AND INSPIRATION.

The two chief sources of all true knowledge are education and inspiration. Education is development of the personal powers; inspiration breathes into man new truths. You may educate one through all his years, yet if you teach him nothing new he has been but little favored. Education is conservative; inspiration is progressive. Education is timid; inspiration is daring and brave.—D. O. Mears.

POOR MARTHA.

Mary and Martha, two little sisters, had been promoted to the dignity of a big bed, where they slept together. "I sleep on the front side," announced Mary, with an air of importance. "And where do you sleep, Martha?" inquired the visitor. "I sleep where Mary doesn't," replied Martha, with a rueful glance at her restless little sister.—[Exchange.

Money, position, influence, these are as nothing compared with brains, energy and perseverance.—F. A. Atkins.

Primary Lessons

Second Year Work.

BEER.

THE thought of Matthew Arnold that bodily health and vigor are not to be classed with wealth and population, or mere machinery, appeals to us in theory. The latter is valuable for its own sake; the former because it clasps hands with the immortal life of the mind and soul.

How is it in practice? Every nerve is strained in the acquisition of money; civilization is alarmed when the death rate of a community falls below that of its births; choice bits of machinery are polished to a high degree of perfection, and safely housed from wind and storm, but what of the individual child? In utter disregard of health and bodily development he is often allowed to share the family beer-mug, drain the sugar in his father's glass of whiskey, and sip so-called "sweet cider" at pleasure.

If the home is ignorant or neglectful of the seductive power of these narcotic beverages, the school must make its influence felt the more. "Health is the righteousness of the body," and it is our glorious privilege, teachers, to impart that knowledge which shall help secure it to our children.

(1)

Why Beer is Not a Food.

In order to give little children an intelligent idea of the reasons why they should not drink the beer which in too many localities flows as freely as water, it is specially needful to begin with facts already familiar to them. This lesson may well follow others upon the subject of Food, and may be introduced by a story to illustrate the first point. For this purpose we suggest

Pietro's Two Breakfasts.

Where was Pietro? Dorothy and Prince had got into disgrace waiting for him. When he didn't appear as usual, directly after breakfast, they had gone for a romp into that forbidden ground, the study, and Prince had torn up Mr. Gray's half-written sermon.

"I s'pose I ought to sit in the corner half an hour for that," sighed Dorothy, who usually planned her own punishments; "and it's all your fault too, you careless Prince."

"No, 'twasn't either, 'cause I shouldn't have let you come in here, but it was such a nice place to play," went on Dorothy mournfully, as she climbed on the high stool to do penance.

Prince leaned against her knee, a world of sorrowful sympathy in his doggish eyes and heart. He felt wholly to blame, but how was he to know what papers were choice and not to be played with. He could only take his punishment in the corner too, and say nothing.

Just then a mop of curly black hair and two shining dark eyes appeared at the window. They belonged to Pietro, the hand-organ boy.

"Me play-a for you?" he said with his sweetest smile.

"Oh, do," begged Dorothy, forgetting all about her punishment and running to the window. Prince ran too, barking loudly, for Pietro was a great friend of his.

"Have you had any breakfast, Pietro?" asked Dorothy, when the boy had played all his tunes.

"Me had-a big mug-a beer."

"That wasn't any breakfast at all. My mama'll get you one," said Dorothy, running to find Mrs. Gray.

"Me big-a man some day. Keep-a store," said Pietro as he finished the nice steak and potatoes Mrs. Gray brought him.

"Does the monkey have beer too for his breakfast?" asked Dorothy.

"No, no; beer mak'-a monk' sick," said Pietro hastily. Mrs. Gray smiled, then looked grave.

"Do you think beer is a good thing for boys when it is so bad for monkeys?" she asked finally.

Pietro didn't know what to say to this, so he kept still.

"Suppose I gave Dorothy for her breakfast only a large glass of water, with a very little food in it, and that little spoiled by having a tiny bit of poison mixed with it. Do you think she would grow or keep well? That's what she would have if I gave her beer to drink, and boys need good food as much as girls."

"Beer plent'-a cheap," said Pietro, after a moment's thought.

Mrs. Gray considered.

"How would you like to work here for your meals?" she said presently. "I will give you all the good food you can eat every day, if you will help me an hour or two in the morning."

"Monk' plent'-a eat, too?" said Pietro, hesitatingly.

"Yes, your monkey shall have all he can eat too," said Mrs Gray with a smile, and so it was arranged.

Pietro drank no more beer, and to-day he is a large, strong man, with a fruit-store all his own.

Teacher—"Who knows why Pietro needed two breakfasts that morning? Why wasn't the beer enough?"

If all can not answer this question, hold up two apples, one sound and ripe, the other nearly all decayed. Ask why every one would choose the sound fruit, bringing out the facts that

The partly decayed apple was once good to eat.

Only a little of the good part is left.

Its good taste and flavor are now spoiled.

It is no longer a good food.

It is not safe to eat.

Then show that a glass of beer is like this apple in some ways, because

It was once good barley or other grain.

Only a very little of the good part is left when it is made into beer.

Its good taste and flavor are spoiled.

It is no longer a food.

It is not safe to drink.

"Who can tell me now why Pietro was so glad to get the steak and potato Mrs. Gray brought him?"

"He was hungry."

"The beer wasn't a food."

Get the thoughts of all on this question; then ask how many remember what food does for us when we eat it, bringing out in review the facts learned in previous lessons that

Food { Makes us grow.
Gives us strength.
Keeps us warm.

Teacher—"Beer would make a good breakfast for us if it could do all these things, but it can't?

"One of my neighbors used to give her little girl sips of beer at the table, to give her an appetite she said. But that didn't help matters. The child was sick and fretful, and did not care to run and play with her little friends.

"The doctor told her to give the little girl milk instead of beer, and to keep her outdoors as much as possible. After a little the roses began to come back to the child's pale cheeks, and she grew stronger. Now she is straight and tall like her brothers and sisters, but she never touches beer.

"Prince felt wholly to blame."

"Sometimes people drink beer in winter, thinking it will help to keep them warm. Are they right?

"Suppose we open all the doors and windows on a very cold day to let the heat from our stoves and furnaces warm up the air outside. Would that give us summer weather?

"No indeed; we shouldn't feel the difference outside, but our houses would get so cold we couldn't live in them.

"It would be just as foolish to drink beer to keep us warm, for it sends the heat to the surface of our bodies where it passes off, just as it does from the open doors and windows of the house, and doesn't leave enough behind to keep us warm.

"Tell me now what beer would do for us if we were to use it in place of the food we need."

Write these statements on the board when given, in contrast to the review facts already brought out regarding food.

Beer { Hinders our growth.
Makes us weak.
Does not keep us warm.

(2)

WHY BEER IS A BAD DRINK.

Teacher—"Do you remember that beautiful plant I would not let you touch when we went to the woods last fall?"

Grace—"You said it was poison-ivy, and would make our hands burn and smart if we picked it."

Teacher—"Grace is right. Listen while I tell you what a poison is. I'll write it on the board where we can remember it."

A poison is something which can hurt us or make us sick when we touch or eat it.

"Some things are poisonous to the touch, and we have to be very careful to let them alone. Others are poisonous to the taste, and we must never put them into our mouths, or swallow them. What is the name of the poison in beer, and other like drinks made from grains? Tell me one reason why beer is harmful."

Put on the board the answer when given:

Beer is a bad drink because there is a poison, alcohol, in it.

If it is still difficult for all to understand why beer is a dangerous drink, when the grain from which it is made is good for food, show or tell them about other food substances which may be so changed as to be disagreeable or totally unfit to eat. Familiar instances of such changes are sour milk, mouldy bread or cake, fruits and vegetables which have begun to decay.

Do not give the children the idea that one and the same change has occurred in each of these instances; that beer is the same as rotten grain for instance.

They know already, from simple lessons on the grape and apple, that wine and cider are made from these fruits by the action of tiny plants called ferments. Tell them that other tiny plants cause each of the changes referred to; that we call one kind moulds; another, germs of decay, while the ferment which makes beer is yeast. They will readily understand that since there is a different result in each of these instances there must be a different kind of plant in each case.

Teacher—"There is another reason why we should never begin to drink beer. It is because it is so hard for people to give it up when they have once begun its use. Food does not act in that way. If you drink a glass of milk this morning you do not want two glasses to-morrow, and three the next day.

"Yesterday I was visiting my friend in her pretty home. While we were talking her little son came running toward the house as fast as he could go. He dashed up the steps and fell head first over a hassock on the piazza, bumping his head badly.

"Why Ernest, what made you in such a hurry?" asked his mother, as she bathed his forehead and comforted him. "Didn't you see the hassock?"

"Yes mother, but I was going so fast I couldn't stop."

"Me play-a for you?"

Teacher—"That's what people say sometimes when they have got into the habit of beer-drinking. 'I want to stop but I can't. I like it too well.' How can we be sure not to get the beer appetite?

"Tell me two reasons why we will never taste this bad drink."

Beer contains the poison, alcohol.

People who drink beer want more and more of this poison.

(3)

How Beer Hurts People.

Teacher—"What are some of the ways in which beer hurts those who drink it? Let us see if we can find out.

"What does a boy need to make him a good foot-ball player?"

Hugh—"He needs lots of muscle."

Teacher—"Tell me some other people who need muscle. How many of you would rather have firm, strong arms and legs than soft, flabby ones? You must be very careful to let beer alone then, for beer changes good muscle into fat, and makes people weak instead of strong.

"When I was a little girl I was very much afraid of the blacksmith who lived near by. He didn't like children and was always grumbling and finding fault with his own boys and girls. One day I saw him carrying a jug into the house.

"'What do you suppose he has in it?' I asked my mother.

"'I'm afraid it's a jug of beer,' she said.

Then she told me that this blacksmith I was so afraid of used to be kind to everyone, but that since he began to drink beer he had grown cross and disagreeable.

"Why was beer a bad drink for this man?

"Would it be any better for us?"

Some child may ask: "Why doesn't beer hurt my father? The doctor tells him to drink a little every day when he doesn't feel well."

Tell the class in reply that doctors sometimes give people belladonna or arsenic when they are sick; that both of these are poisons, just as the alcohol in beer is a poison, and would kill anyone who took too much. Well people do not take these poisons; they should not take alcohol either, even so little as is found in a glass of beer, for instead of keeping them well it may cause some disease and will almost surely injure their health.

"Tell me all the ways we have found out in which beer hurts people."

Write these points on the board when given by the class, with your help if necessary, and keep them in sight until they have become thoroughly familiar to all:

Beer changes muscle to fat.
Beer makes people cross.
Beer injures the health.

AUTHORITATIVE QUOTATIONS.

Beer Contains Alcohol.

In beer the percentage of alcohol varies from two to ten per cent.—M. Joffroy, in Revue Scientifique.

Beer not a Food.

So far from being an innocent and healthful article of diet, beer and all that class of liquors are poisonous and unwholesome, with no practical food value.—Norman Kerr, M.D., F.L.S.

Beer Lessens Strength.

A moderate dose of beer or wine would in most cases at once diminish the maximum weight which a healthy person could lift.—Wm. Brinton, M.D., F.R.S.

Beer Produces Fat.

The less of alcohol or of malt the better, if we would be thin.—[London Lancet.

Beer Makes People Cross.

Our beer drinkers become besotted. Beer makes them cross. It makes their homes unpleasant. It prevents them from rising in civilization.—John Todd, M.D.

Beer Enslaves People.

Beer not only creates an appetite for something stronger, but it excites men to acts of violence, desperation and crime.—[Scientific American.

NEW YEAR'S THOUGHTS.

Let us walk softly, friend;
For strange paths lie before us, all untrod;
The New Year, spotless from the hands of God,
Is thine and mine, O friend!

Let us walk straightly, friend;
To get the crooked paths behind us now,
Press on with steadier purpose on our brow,
To better deeds, O friend!

Let us walk gladly, friend;
Perchance some greater good than we have known
Is waiting for us, or some fair hope flown
Shall yet return, O friend!

Let us walk humbly, friend;
Slight not the heart's-ease blooming round our feet;
The laurel blossoms are not half so sweet
Or lightly gathered, friend!

Let us walk kindly, friend;
We cannot tell how long this life shall last,
How soon these precious years be overpast;
Let love walk with us, friend!

Let us walk quickly, friend;
Work with our might while lasts our little stay,
And help some halting comrade on the way;
And may God guide us, friend!

—Lillian Grey.

EDUCATION AND CRIME.

Victor Hugo once made the pregnant remark: "He who opens a school closes a prison." His words received striking confirmation in the figures relative to education and crime given out by Sir John Lubbock at the Sociological Congress held some time ago in Paris. He said in brief:

"Since the act of 1870 the number of children in English schools has increased from 1,500,000 to 5,000,000 and the number of persons in prison has fallen from 12,000 to 5,000. The yearly average of persons sentenced to penal servitude for the worst crimes has declined from 3,000 to 800, while the juvenile offenders have fallen from 14,000 to 5,000."

In the light of these statistics the United States may well consider whether it is for the best interests of this country to deprive every year thousands of children of needed school privileges because there are not enough schoolhouses to accommodate them.

Public sentiment is everything. With public sentiment nothing can fail; without it nothing can succeed. Consequently, he who molds public sentiment goes deeper than he who enacts statutes or pronounces decisions. He makes statutes and decisions possible or impossible to be executed.—Abraham Lincoln.

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FAR-REACHING RESULTS.

IN the Spring of 1890 we sent to the governments of the civilized world a printed report showing that in nearly all the United States the nature and effects of alcoholic drinks and other narcotics are required to be taught all pupils in all schools under state control. This bow drawn at venture led to extended correspondence, especially with educational authorities in France. Their Minister of Education soon after sent out a circular recommending this study for the public schools of that country. This circular is already influencing her neighbors, although the consumption of alcohol in France still increases.

The British Medical Journal of March 27, 1897, in commenting on the enormous increase of the drink bill of Great Britain, says:

"Whatever the cause or causes of this startling increase, it behooves the medical profession to exert the weight of its influence on the educational powers that be to follow the laudable example of the French Minister of Education, and order instruction on the composition and effects of alcohol to be given in every school."

Recommendations of this study in the United States soon culminated in rigid laws requiring its pursuit, and now for a dozen years the children have been taught the truth about alcohol, which they have carried home to their parents. The latest report from the stock market is that the distillers are making no money; that the consumption of distilled liquors is falling below the production, and that stock in those liquors is now below par. As that stock goes down human stock goes up. Our readers will remember that the sale of beer fell off 1,402,999 barrels in this country for 1897 as compared with 1896. The consumption of drinks which the people have learned are brain poisons is falling off in our republic.

OUR NEW DEPENDENCIES.

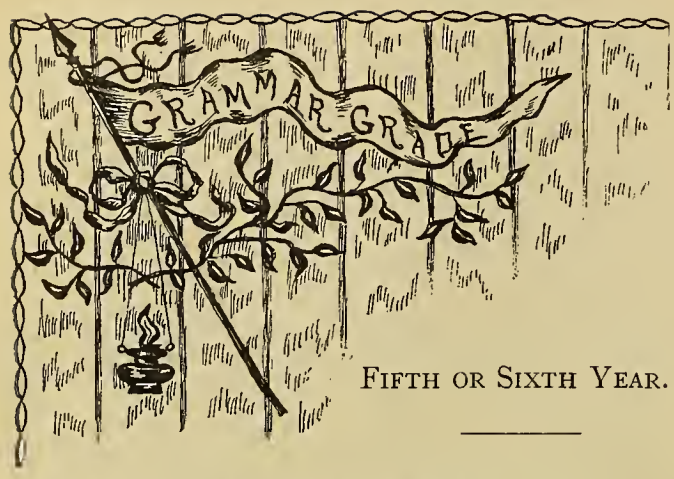
BETWEEN eight and nine o'clock on Saturday evening, December 10th, 1898, a group of men gathered in a magnificent chamber in Paris for an act that will be seen to be increasingly momentous as time goes on. On one side of the great mahogany table in that council chamber, in evening dress for a public dinner which was immediately to follow, were five Americans with earnest but kindly faces. Opposite were five Spaniards, in close, black suits that comported with their drawn and haggard countenances. Interpreters translated, and secretaries read, now in Spanish, now in English, long documents covering many pages, to which each Spaniard and American in turn affixed his name, and thus was signed the treaty of peace which closed the Spanish-American War.

The signing of those long documents has made our nation responsible for nearly ten millions of uncivilized people whom we are to teach self-government and then leave to the enjoyment of the blessings of liberty. If these children of the sun are ever to prove themselves capable of self-government we must set them an example of honesty in the discharge of public duty, while we administer their affairs. The men sent to them for such service must be of that noble type who will seek the good of these people. We must have a pure and able civil service to administer our colonial affairs. To repeat in these new possessions the example of our century of dishonor in dealing with our other wards, the North American Indians, is to invite for ourselves the fate of Spain.

The Hon. Joseph Chamberlain predicts that the American people will rise to the emergency. He tells us that England was so impressed and steadied by the responsibilities resulting from her colonial expansion, that she reformed her civil service which at one time was as far below par as ours now is. And because England did this, Mr. Chamberlain believes we will.

Another lesson we should take to heart in these eventful days is suggested by Prof. Fick, of the University of Würtzburg, Germany, one of the greatest physiologists of this age, who says: "The battle against alcohol is the most important phenomenon of our age — more important than state questions, war, or treaties of peace."

If the cold-blooded, unscrupulous liquor trade that is seeking to find new markets for its declining traffic in brain poisons, is allowed to seize upon these new fields in which to sell alcoholic liquors, there will be no freedom in Cuba, Porto Rico, the Philippines, or Hawaii. The bondage of alcohol over undeveloped peoples has ever been worse than that of Spain.



FIFTH OR SIXTH YEAR.

THE FRAMEWORK OF THE BODY.

NEVER were means more nicely adapted to the end they serve than in the framework of the body. An external skeleton, like that of the crab or turtle, would give little room for growth. Without the present multiplicity of bones and joints man could neither stand upright nor have the freedom of any part of his body. The miracle of our bodily construction is no less a miracle because we may watch the process and become familiar with its details. Teach the child that as man's superiority is largely due to this wonderfully complex organism, it is incumbent upon him to perfect its development, supplying the nourishment needed by its myriad cells, and keeping it free from the taint of aught that can defile or weaken.

STRUCTURE OF THE SKELETON.

The study of bones is too often dry and uninteresting. This will not be the case if the topic is so presented as to catch and hold the attention. Tell the class at the outset some of the wonders of modern engineering. For instance, when piers and framework are complete, a railroad bridge can be taken up and another put in its place almost between trains. Then turn to the framework of the human body, and explain that still more wonderful work is done here, for a child's bones have to grow long and large while he is actually running about on them.

Ask how the skeleton of a man differs from that of a bird, a fish, a lobster, bringing out the more general and obvious characteristics of each. For the first recitation suggest that all find answers to the following questions:

What different shapes can you find in bones? Why are these different shapes necessary?

In how many places in the skeleton are bones fitted together to form an arch? What are the advantages of this shape?

How can bone be both hard and elastic? Why is each of these qualities necessary?

What different uses have the bones?

How are the different parts of the skeleton fastened together?

Why are most bones larger at their ends than in the middle? Why are they not solid throughout?

How do you explain the fact that some parts of the body have a few large bones, while other parts have many small ones?

Why do the bones never need oiling as does machinery?

What is the difference between bone, cartilage, ligaments, and joints?

How does the position one takes in sitting, standing, or walking affect the growth of the bones?

What effect has tight clothing upon different bones of the body?

How far is it in one's power to determine the shape and appearance of his own body?

These questions should bring out some of the most important facts in regard to the skeleton as a whole. When they have been thoroughly discussed and answered in a general classroom exercise, a second lesson may be arranged by asking each pupil to select a part of the skeleton for special study. This he may prepare questions upon for others to answer. He should also be ready to be questioned in turn upon the topic he has chosen, both by teacher and classmates.

A third lesson may well be made a drawing exercise and a review. Suggest that all spend their next preparatory period in drawing the different bones of the skeleton until they can represent each quickly and with a good degree of accuracy. Later, at the recitation period, each may put one or more of these drawings on the board from memory, while others in the class assign to each its name and proper place in the skeleton, together with its special use.

If the above lessons have been clearly and fully developed the class will be ready to take up as a second topic

THE HYGIENE OF THE SKELETON.

General questions on this topic may first be assigned, as a basis for text-book study. These should put the pupils in possession of the main facts regarding the care of the bones, and prepare them for intelligent classroom discussion.

How can the natural shape of bones be altered?

What is the cause of round shoulders? In what ways may this deformity be injurious to health? Why can it be easily remedied in children and not in elderly people?

How are the bones fed? What kinds of food are necessary to form healthy bone?

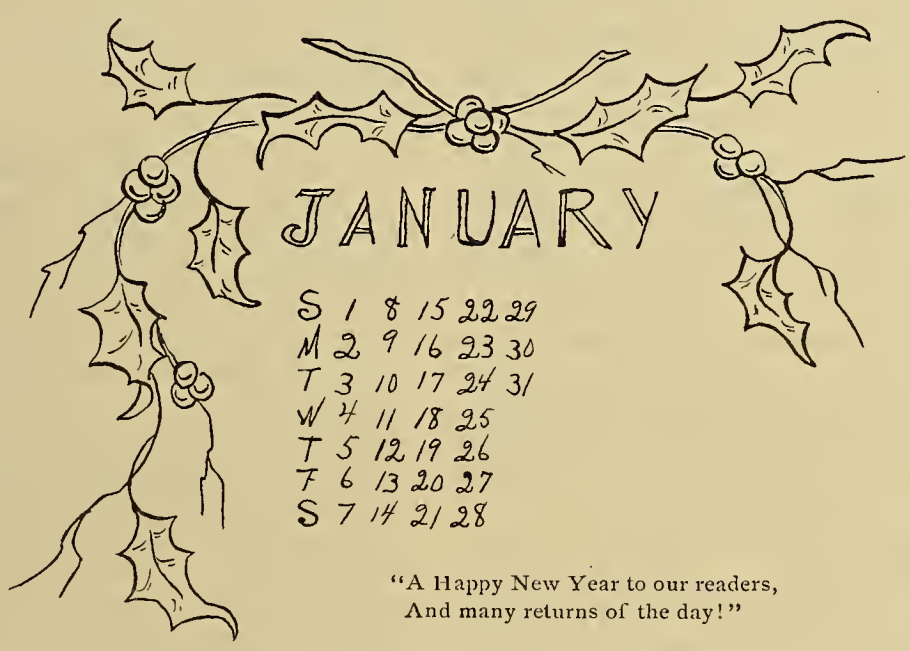
How can exercise in the open air aid the growth of the bones?

Why does constant use of the bones increase their size?

Why are plenty of rest and sleep necessary?

How can bone repair itself when broken or injured?

After bringing out in class all points of hygiene emphasized by the text-books in use, examine with your pupils a cross-section of bone, under the microscope if one can be procured. Call attention to the tiny blood-vessels entering the bone. Ask why these are needed and how the food and oxygen they carry get to the bone itself. Show from chart or blackboard drawing the tiny bone cells which do the real work of building up these organs in the first place, then of keeping them in constant repair. Compare them to soldiers in the army who must do their work where they are, and depend upon outside sources for the food supplies which they can not get for themselves. Tell your class that they are the commissary generals for these armies of little workers, and responsible for seeing that they are well fed and given all the exercise and rest they need.


JANUARY
S 1 8 15 22 29
M 2 9 16 23 30
T 3 10 17 24 31
W 4 11 18 25
T 5 12 19 26
F 6 13 20 27
S 7 14 21 28
"A Happy New Year to our readers,
And many returns of the day!"

Ask some one to name the differences in structure between the bones of a child and those of an old person, and from these differences to suggest the kinds of food most needed by each.

Call for a list of the most common deformities in bone structure, including round shoulders, twisted spines, pinched ribs and feet. Write these upon the blackboard when given. Then take them up one at a time, and ask the class to point out the probable causes of such misshaped bones, and also to suggest ways in which they can be straightened and brought back to their normal condition.

Effects of Alcohol and Tobacco.

Show the class a picture of the finest house you can find, and ask them to suggest the different materials of which it might be composed. Ask the class what they would use to build a house of, if they could have anything they wanted and need not be obliged to consider expense in any way. They will name the costliest materials they can think of. Ask if they would put into these houses anything that would weaken the foundations, or make the walls insecure, or that would spoil the looks of the building, even if some of their friends urged them to do so because they were using this same poor material in their own houses.

Then ask if they know of a house anywhere as wonderful as the human body; one that can actually build itself, and more than this, can keep itself in repair after it is built if furnished with the right material.

Send one pupil to the board to write at the dictation of the class some of the things most frequently put into the walls of these living houses which spoil their looks, or keep them mean little hovels instead of building them into splendid mansions; or which sometimes so weaken the foundations and framework that they collapse altogether.

Alcoholic drinks and tobacco may well head the list, as two of the most dangerous foes to the life and activity of the tiny cells which build up the framework of the body.

Call for reasons why these substances are particularly harmful to bodily growth, and make sure that the following points are included in the answers:

Neither alcoholic drinks nor tobacco are foods; hence they can not nourish the bones or help them grow.

All alcoholic drinks and tobacco contain a poison which stunts the growth of the bone-cells, and may cause their disease or death.

Learn the average age of your pupils; then appoint a committee from their number to find out from some reliable physician the correct physical measurements of perfectly normal boys and girls of their age. Have these written on the board in parallel columns. Then ask each pupil to find out for himself how far his own measurements exceed or fall short of this stan-

dard. This will give all a pretty good idea whether they are providing sufficient good material for the growth of their bodies, or whether they are starving or poisoning them.

AUTHORITATIVE QUOTATIONS.

Alcohol Stunts Growth.

The injurious effect of alcohol on the entire development of the child is evident from the fact that children who drink spirituous liquors are noticeably stunted in growth. — Adolf Frick, M. D.

Alcohol and Tobacco Pervert Nutrition.

Alcohol and tobacco—twin relics of barbarism — rob the blood of its oxygen, perverting nutrition, and generating a poisonous condition. —I. N. Quimby, M. D.

Narcotics Hinder Aeration of Blood.

Wine, beer and strong cigars, through their active poisonous principles, enormously hinder the aeration of blood.—Edw. B. Jackson, M.D.

Alcohol Destroys Working Cells.

Dr. Andriesen found that alcohol acted on the cell body, causing changes of the granules, eroding them as it were, breaking up the normal distribution, and causing them to gather in masses like ruins.—T. D. Crothers, M.D.

Alcohol Weakens the System.

When the bonfire of energy made by ale has burnt out, in nine cases out of ten it will be found that it has left the organism weaker than it found it.—Justus Gaule, M.D.

Alcohol Causes Disease.

Drinking children fall ill much more readily than those who do not drink; their illnesses are apt to be more severe and more often fatal.—Adolf Frick, M.D.

Smoking Injures the Constitution.

That there will be practical unanimity as to the evil of smoking by children goes almost without saying. Nothing but harm can come from it, and a bad habit is formed which must be injurious both to the character and constitution of growing lads.—[Medical Pioneer.

Alcohol Poisons Every Part of the Body.

Alcohol is not only a poison in itself, but when taken into the system it injures every organ and tissue.—I. N. Quimby, M.D.

Alcohol Does Not Impart Strength.

Alcohol does not impart strength, but it enables a man to use up in a short time what energy he would have taken a much longer time to use.—Dr. Kevin, of the British Medical Association.

AN OBJECT-LESSON OF THE WAR.

One great object-lesson the war is giving to the boys and young men of this country is the truth of the fact which parents and teachers have been telling them for some time—that cigar and cigarette smoking undermines the health to such an extent that the user becomes physically unsound. It is said that in some of the examinations undergone by the volunteer soldiers fully thirty per cent. have been rejected on account of defective heart action caused by cigarette smoking. Most boys take up this habit in order to appear manly and be like men. If we can impress upon them that instead of making them appear manly they are actually being made weaklings, and thus made unfit to be classed as sound men, they certainly ought to take the lesson to heart and avoid the use of this deadly poison. The government of the United States has prohibited the use of the cigarette at West Point and Annapolis on sanitary and moral grounds, and on the same grounds it ought to be kept out of every public school in the land.—[American Journal of Education.

LOVING SERVICE.

A lady was walking homeward from a shopping excursion, carrying two or three packages in her hand, while by her side walked her little boy. The child was weary; the little feet began to lag, and soon a wailing cry arose:

"I'm too tired! I want somebody to let me wide home!"

The mother looked about her, but there was no street car going in her direction. She took one of her parcels and gave it to the child.

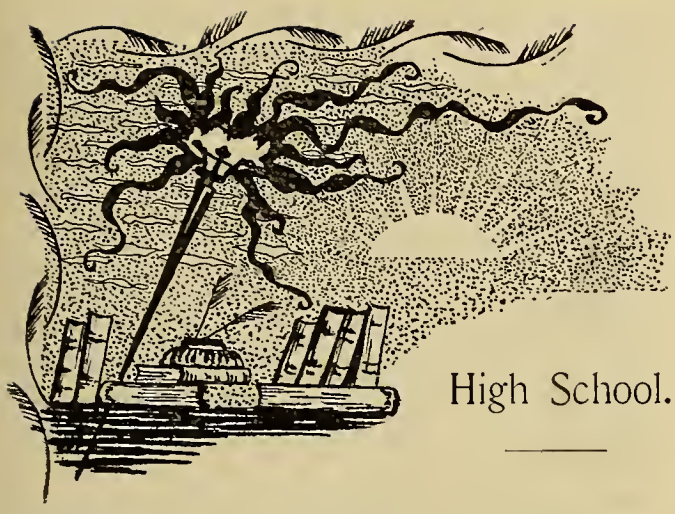
"Mamma is tired too, and Willie must help her to get home. She is glad she has such a brave little man to take care of her, and help her to carry the bundles."

Instantly the little fellow straightened, his step quickened, and he reached for the offered parcel, saying stoutly:

"I'll tarry 'em all, mamma."

It was only the old, old lesson that our Father is always teaching us: "Is the homeward way weary? Try to lighten another's burden, and the loving service shall smooth thine own path."—[Lutheran Observer.

Theodore F. Seward, the organizer of the "Don't Worry" clubs, tells a good story of a little boy who had reached the multiplication table in the course of his education. One night he was sitting anxiously over a paper of figures, when his mother came along and said: "Johnnie, do you find your arithmetic very hard?" "Yes indeed, mamma, I do," was his reply. "It was so awful hard that I prayed to God to help me, but He's made three mistakes already."—[Exchange.



High School.

PRACTICAL QUESTIONS ANSWERED.

IN the December number of the JOURNAL were printed two questions on physiology, copied from a set of examination papers recently issued for state certificates. The first of these questions, referring to the effect of tobacco upon longevity, is likely to confront the student at any time. The facts, as he knows them, may seem to controvert the theory of his text-books, and he needs to be furnished with definite and authoritative statements upon just this point. We have taken pains therefore, to collect the needed testimony from several of the most eminent physicians in the country, and present it herewith, in the hope that it may help to settle any doubt arising in the mind of either pupil or teacher.

A lesson may well be devoted to this one subject, using the quotations given below to supplement the material found in the physiologies. We suggest that it be made the text for a review lesson upon the subject of tobacco. Each member of the class may be assigned one or more organs of the body, and requested to find out how each may be impaired in structure and function by the use of tobacco. When these special effects of the narcotic have been discussed in class, take up its influence upon the individual as a whole. Inquire whether the person who uses tobacco can rival the total abstainer (a) in size, health, or power of endurance, since tobacco stunts growth and physical development; (b) in mental ability, since habitual smokers are almost invariably at the foot of their classes; (c) in morals, since users of tobacco are notoriously regardless of the rights and privileges of others.

One other point should be emphasized by the teacher,—that tobacco is pre-eminently injurious to children and young people. If all cases of alleged longevity in which tobacco figures were rigidly investigated it is probable that few or none could be found in which the use of this narcotic was begun before the age of twenty-five or thirty years.

The second question to which authoritative answers are given below will seldom confront the teacher in the schoolroom. It is out of place there, and should be relegated to the physician's office. For the teacher's own information however, either in preparing for higher examinations, or in reply to queries upon this point from other sources, we publish reliable statements from those well qualified to speak with authority.

EFFECT OF TOBACCO ON LONGEVITY.

Some persons who use tobacco live to extreme old age. How should this fact be regarded?

Simply as evidence that such persons possess an unusual tenacity of life, or in other words unusual vital resistance to the influence of causes of disease. Some persons who live in the poorest and most unsanitary wards of our cities live to be very old. But no one imagines that their unsanitary surroundings prolonged their lives or the lives of their neighbors.

So the person using tobacco who lives to be very old, does so in spite of the tobacco, and would probably have lived longer had he never used it. The good or evil effects of tobacco or of any other substance are not to be determined by an exceptionally long life here and there, but by its average effect upon all the persons who use it in a given community.

Length of life is influenced much by heredity. Members of some families nearly all live to very old age, while those of others as uniformly die comparatively young, when all have been subjected to substantially the same influences.—N. S. DAVIS, M.D., F.R.S., Chicago, Ill.

Some persons have a natural or acquired constitutional resistance to the injurious influences of tobacco. Some persons might live to extreme old age in spite of the use of tobacco. Some persons who use tobacco and live to extreme old age, might live considerably longer if they would not use tobacco. No one can determine the longevity of a strictly normal life. It has been estimated to be 120 years.—J. W. GROSVENOR, M.D., Buffalo, N. Y.

Some licentious persons live to an extreme old age, but no sane person infers that licentiousness promotes longevity. So fits of anger, jealousy, worry, drunkenness, and hosts of other vices are found in some persons who have lived to extreme old age, but it were quite unscientific to reason that any or all of these promoted the length of years — no more the use of tobacco.

The factors which render longevity possible are many. In a specific case one or more of these may be absent, and yet enough remain to carry the individual to old age. Among the positive factors of longevity no physiologist or sociologist or ethnologist has placed the use of

tobacco by the healthy. On the contrary, it is definitely established that in some cases the use of tobacco has induced diseases, followed by either cripplement or death. Further, many careful observers believe that the use of tobacco by the healthy, in all cases either diminishes wholesome productiveness or shortens life or both. Never has it been shown that the non-use of tobacco has diminished longevity. It follows that those who desire long life, if guided by existing knowledge, will totally abstain from the use of tobacco.— LEARTUS CONNOR, A. M., M.D., Detroit, Mich.

The fact that some persons use tobacco and live to extreme old age, must be regarded as an evidence of the toleration of the human system. Mithridates of old is often cited as an example of what the system can endure under certain circumstances. None of us know what would be the life limit of a person without the drain of narcotics. We do know that those who abstain from them have more endurance, and greater probabilities for a long life, and that the term of life is constantly increasing as we conform more and more to the laws of life. One can be very sick and recover the full measure of health, to all outward appearances, but never what it would have been without having had that strain upon the vitality. By no means do we realize the possibilities of life from a strictly sanitarian point of view. One hundred years should be the minimum.— CHARLES H. SHEPARD, M.D., Brooklyn, N. Y.

This fact should be regarded as an exception to the rule. Tobacco can not strengthen vital forces, or give new vigor, or lengthen life. In all cases it impairs the powers of vitality. In some cases this debility is not prominent, but exists, and is traceable in all cases by careful examination. The injury from tobacco varies, but is always present whether recognized or not. —T. D. CROTHERS, M.D., Hartford, Conn.

EFFECT OF ALCOHOL ON THE SKIN.

Sometimes people in feeble health are bathed in alcohol.

(a) State the purpose of this kind of bath.

(b) Mention the function of the skin most employed in accomplishing it.

Persons in feeble health are sometimes bathed in alcohol for the purpose of giving them strength and improving their health, — often done probably in the belief that there is some strengthening quality inherent in the alcohol. The alcohol causes the blood to be moved to the surface of the body, thus equalizing the circulation, and removes more rapidly impurities from the blood through the insensible perspiration. Alcohol is not superior to any other liquids for this purpose. Many liquids or solids, even the hand alone, will accomplish this object. A good substitute for alcohol for bathing purposes is a solution of salt in water.

Connected with the skin are absorbent vessels which may introduce a small portion of alcohol into the system, but only a small portion, because it is rapidly evaporated. As alcohol is a paralyzer it cannot strengthen the body in this way. Through the irritation caused by bathing and rubbing the vaso-motor nerves lose their inhibitory power over the blood-vessels, and thus the blood flows more freely to the surface of the body.—J. W. GROSVENOR, M.D., Buffalo, N. Y.

Those who use it do so for the purpose of increasing the circulation of the blood and strengthening the patient. At least such is the purpose of the patient and his friends, but every well informed physician knows that it has no more effect than pure water used at the same temperature and in the same mode of bathing.

The two functions of the skin employed in accomplishing anything in bathing, are absorption through its capillaries or pores, and its sensitive nerves, connected with the cerebro-spinal axis. Absorption through the skin is so slow that in the usual process of bathing not enough alcohol gets through the skin to produce any perceptible influence on the patient or to be detected in his blood.

The whole real effect is from the transmission of the impressions of cold or heat through the cutaneous nerves to the cerebral nerve centers by which reflex action is transmitted through the cardiac, vaso-motor and respiratory nerves to the whole circulation. The beneficial effects depend entirely upon the temperature of the water and the manner of its application, the addition of alcohol being of no use whatever, as proved by abundant experience in the treatment of fevers and other diseases by cold-water bathing.—N. S. DAVIS, M.D., F.R.S., Chicago, Ill.

The treatment of feeble persons is a strictly medical question and outside of the realm of the temperance advocate. Its scope is quite too extensive for brief answer, and as healthy persons are in no way advantaged thereby it may be respectfully referred to the inquirer's medical adviser.

It opens up the question of the self administration of medicines by the sick, or their prescription by the laity. One of the greatest obstacles to the temperance work is the widespread idea that each person can be his or her own doctor, and the doctor of their acquaintance. Complete success will never be attained until all people believe that all drugs of every sort, inclusive of tobacco and alcohol, are harmful to the human body in health, and that in disease they should never be administered except under the direction of an expert knowledge

—that of the intelligent physician. Hence, if persons in feeble health could be induced to follow the advice of a physician, respecting the bathing of either skin or stomach with alcohol, they would be helpful to the temperance cause. —Leartus Connor, A.M., M.D., Detroit, Mich.

Sometimes people in feeble health are bathed in alcohol, and imagine that they are greatly benefited thereby. It is the same with those who bathe their insides with alcohol. The external application produces a cooling effect from the rapid evaporation carrying off the heat of the body. Alcohol will quickly destroy plant life, and the greater vital resistance is all that saves animal life. It is purchasing a small amount of comfort at a large expense. The effect of bathing in alcohol is to weaken the peripheral nerves and lower the integrity of vital resistance. A persistence in alcohol bathing would tend to paralyze the functions of the skin.—Chas. H. Shepard, M.D., Brooklyn, N. Y.

Alcohol baths are refrigerators to the surface of the body. They remove the moisture and absorb the water on the surface. In fevers with profuse perspiration they take up the water and cool the surface rapidly and effectively. If given too freely they become irritants, corrugating then burning the skin. Very little is absorbed, and a very large proportion passes off in the air. It is inferior to water, and is not used in the high temperatures of typhoid. Some skin diseases are benefited with weak applications of alcohol, but so much is lost in the air it is not practical. Alcohol sponging in consumption is abandoned as an irritant, inferior to salt water bathing. Alcohol on the surface will produce blisters if concentrated and retained, by its irritant, corrugating action, absorbing the water and drying up the tissues.—T. D. Crothers, M.D., Hartford, Conn.

WHY SHE WAS HOMESICK.

A recent article on homesickness recalls to The Christian Advocate the reply made by a young Swedish maid to her mistress. It expresses clearly, though in imperfect English, what every sufferer from homesickness feels.

"You ought to be contented, and not fret for your old home, Ina," said the lady, as she looked at the dim eyes of the girl. "You are earning good wages, your work is light, every one is kind to you, and you have plenty of friends here."

"Yas'm," said the girl, "but it is not the place where I do be that makes me vera homesick; it is the place where I don't be."—[Ex.

Teacher—"Do you stutter all the time?" New Boy—"N-n-no, ma'am; only wh-wh-when I t-t-t-talk."—[Exchange.

BOOK NOTICES.

The Nation's Book in the Nation's Schools, by Elizabeth Blanchard Cook. Paper 50 cts., cloth 75 cts., post-paid. Chicago Woman's Educational Union.

This little volume is well adapted to the fulfilment of its mission, the extension of the proper use of the Bible to every school in the United States. Objections are answered and convincing arguments laid down to show the relation of this book to an ideal citizenship. The list of educators cited as approving a more extended use of the Bible in schools, together with their reasons for the advisabilty of such study, carries much weight. It is a book to be read and pondered by all who believe that the strength of a government depends upon the virtue of its citizens.

Educational Creeds of the Nineteenth Century: E. L. Kellogg & Co., N. Y.

Views of many of the best known students of the philosophy of education, regarding the educational ideals and plans underlying future American civilization, are collected and offered to the public in this little book. Every teacher must have an educational creed if he is to achieve success—that is, he must be equipped with clear, strong convictions as to theory and method. For the teacher's help in forming such opinions, this book presents the conclusions reached by those educators who have given most time and thought to educational matters and who speak from the fullness of their own experience. As such, it is both interesting and valuable.

A CHANGE IN PRICE.

The School Journal, published by E. L. Kellogg & Co. of New York, announces a reduction in price from $2.50 to $2.00. This weekly educational paper has been issued since 1870 and is deservedly popular with its large class of readers. The change in price has been made with a view to meeting the needs of the many teachers who wish to keep abreast with the latest educational methods by taking a weekly journal.

The small son and heir had been sent into the garden to fetch a stick with which he was to be punished. After some delay he returned, saying with a sigh, "Couldn't find a stick, mover; but here's a little stone you might frow at me." —[Harper's Magazine.

The study of the duty of citizenship ought to be the foundation of all the other studies.—Turgot.

AMERICAN CIVILIZATION.

Scotch-Irish Influence.

AN Athenian is reported as having once exhibited a brick as a sample of the house he desired to sell. It is no less misleading to label "Irish" every inhabitant of Ireland. The Scotch and Irish peoples have both played important roles in the history of this country, but still more important has been that of the Scotch-Irishmen of the North of Ireland. Scotch by blood, Presbyterian in religion, driven out of their homes by religious persecution, they maintained for many years their separate existence.

The motive which impelled each of these peoples to come to America was the magic watch-word, liberty. The Catholic Irish longed to stretch themselves to their full height and be men, the Scotch "Covenanters" longed to worship God according to the dictates of their own consciences, and both sought to improve their material condition. The spirit of daring and of adventure which inspired both races is shown by the fact that when they came to America they invariably settled on the frontier.

Their settlements are distributed in nearly every state in the Union, chiefly perhaps, in the East.

They did not seek to impose upon anyone their nationality or customs; they were only too glad to be let alone. And this has characterized them all the way through—adaptability and religious toleration.

About the time that the Virginia settlement was made by the English, a little company of Scotchmen landed on the coast of Canada. Here they made a vigorous fight for existence, but through the perfidy of Charles I. their land was given to the French, and they were obliged to scatter, though there is even yet a strong Scotch element in the population of Canada.

Early in the eighteenth century, five shiploads of Scotch-Irish arrived in Boston. Of these the larger number settled in Worcester, Mass.; the remainder went to Maine.

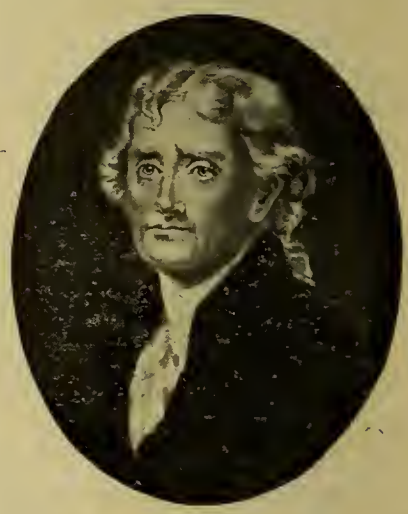
During the ten years previous to the Revolution ten distinct settlements were made in this country by the Scotch-Irish of Londonderry, and all became prominent towns. Londonderry, N. H., the most important, was held under a charter from George I., by which, on fulfilment of certain conditions and the payment of a peck of potatoes annually to the crown, each settler was given a house lot.

These colonists were the first to introduce the culture of flax and the manufacture of cotton cloth. During the Revolutionary War Congress conferred on Mr. John Montgomery, of Londonderry, N. H., £40 in money and a diamond ring for linen woven by him for General Washington and his officers.

At the time of the Revolution one-third of the population of Pennsylvania was Scotch-Irish. It is said of Pittsburgh that "It is Scotch-Irish in substantial origin, in complexion and history, Scotch-Irish in the countenances of the living and records of the dead." Prof. H. G. Smythe says: "In Pennsylvania the Scotch and Scotch-Irish fused together as did the gold, silver, and brass statue gods of Corinth when that city was burned, forming the much-prized Corinthian brass. Out of such metal were many of the strongest pillars of the state formed."

In Virginia, Patrick Henry, the youthful son of a Scotchman, introduced into the legislature the resolution denying the validity of the Stamp Act which aroused the continent, and "set in motion the ball of the Revolution." "It is to the Scotch-Irish people that Virginia is indebted for her earliest educational institutions of high grade, and one of their number, Thomas Jefferson, was the founder of the State University."

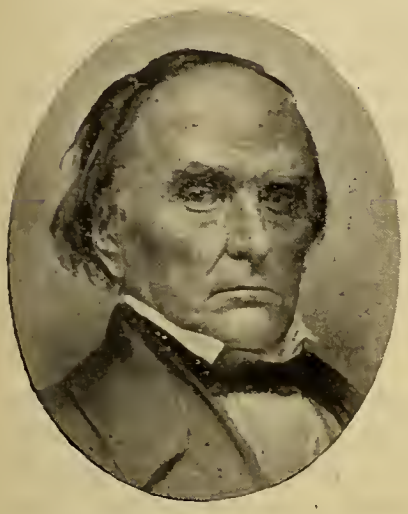
The history and political policy of North Carolina has been largely shaped by Scotch Presbyterians from the North of Ireland. "It is due to her Scotch-Irish people that North Carolina is entitled to the honor of being the first colony that authorized her delegates to vote for independence."



John C. Calhoun of South Carolina, the great Southern statesman, like his sturdy opponent President Andrew Jackson, was of this race.

In the South Atlantic States the Scotch-Irish followed a line nearly parallel to the Blue Ridge Mountains. They were men of splendid bodies, and "their digestion was the envy of the mountain bears." They possessed marked mental characteristics, practical sagacity, and common sense. "Such was their thrift that Poor Richard himself could have given them no new lessons against wastefulness and prodigality."

The Scotch-Irish pioneers in this country, originally Scotch Lowlanders, were of the Norman and Saxon blood, closely akin to the English, and Protestants almost to a man. The inhabitants of the South and West of Ireland are Celtic, — in religion, Roman Catholic. They have contributed much energy and ability and patriotic devotion to our national life, even such men as Judge McKenna and John Boyle O'Reilly, but they have contributed also most of the saloon keepers, and the ring politicians of our great cities. The influence of American free institutions, especially the public schools, will surely correct the reaction from oppression in their own country, but as yet they have taken more than they have given of the elements that make for true progress in civilization.



As we are dealing in this series of studies with those qualities among foreign influences that advance instead of retard our progress, we turn again to the early Scotch-Irish settlers. They no longer come to the country in any appreciable numbers — they have already immigrated and helped to furnish the material on which our young republic was founded.

The Catholic Irish are still coming. More have reached these shores in the nineteenth century than came in the eighteenth. "The majority drop like tired migratory birds upon the eastern shores of the sheltered continent," and are distributed among the states containing the largest cities, of which they form one-fourth of the population.

"The Scotch-Irish brought to this country their Bible, their conscience and their catechism." Few of their number have ever been found in the police courts or the prisons. The New York Tribune some time ago reports Judge Sutherland of that city as saying that during his long term of office as a criminal judge only one Scotchman was brought before him accused of crime, and that one was acquitted. Their representatives are such men as Dr. T. De Witt Talmage, Dr. John Hall, and Henry Ward Beecher.

Unlike the Spanish, French, or the English, the Scotch-Irish of America have achieved no distinction as a race. What La Salle accomplished in this country he did as a Frenchman for France. The Scotch-Irishman as such, has left little trace in our annals. As individuals, they challenge to competition every other nation represented on the continent.

The men of this race have been above all things leaders of men. "They dominated because in the nature of things it could not be otherwise. They were born and educated a thousand years as leaders of men; they were men of conviction; they were men of faith in religion, faith in God, and faith in themselves; and why should not such a people resolve that the land belonged to the saints and they were the saints?"

In two realms they have been pre-eminent — as warriors and as statesmen. Of the twenty-four major-generals who led our army successfully through the Revolutionary War not less than one-half were Scotch, Irish, or Scotch-Irish. Gen. John Stark, whose name sets the blood of every school-boy tingling, was a Scotch-Irishman; so was Commodore Perry. "It was from this source that Gen. Scott got his prowess in war, Joe Johnson and Stonewall Jackson their daring and contempt of danger, Gen. McClellan his engineering skill and power of government, Gen. Grant his unyielding courage that nothing could break down, and President Hayes his honesty, independence and determination to stand by the right though the heavens should fall."

In 1856, George Chambers wrote: "The Scotch-Irish have furnished a majority of the United States senators since the organization of the Federal Union."

Six of the signers of the Declaration of Independence were Scotch-Irish. Thirteen of our presidents in their remote or immediate ancestry are of Scotch, Irish, or Scotch-Irish extraction. President McKinley stands conspicuous in the list. Most of the distinguished cabinet officers have been Scotch-Irish, James G. Blaine, for a single example.

The field of literature does not lack representatives of this race of blood and brains. Asa Gray, the distinguished botanist, was one of the number, Edgar Allen Poe, Washington Irving, and John Lothrop Motley. Horace Greeley was Scotch-Irish from both sides of his family.

In oratory, the names of Calhoun, Stephen Douglass, Daniel Webster, and Patrick Henry

stand out as Scotchmen whose voices have thrilled waiting multitudes.

They have been leaders in other pursuits. A. T. Stewart, the merchant prince of New York, and the Brown Brothers, bankers of international reputation, were Scotch-Irish.

They have been explorers as well as pioneers. George Rogers Clark was a Scotchman, and Dr. Elisha Kane, the Arctic explorer, was Scotch-Irish; so also was Robert Fulton who invented the first steamboat.

The most prominent characteristic of the Scotch-Irish people is said to be will-power. They endure hardships with a persistency and heroism unsurpassed in the annals of history. But tenacity of purpose is often called by the more unfriendly name of obstinacy. The hard-headed Scotchman is proverbial, and equally expressive is the petition, "Grant, O Lord, that the Scotchman may be right, for if wrong he is wrong eternally."

The Scotch-Irish frontiersmen were aggressive fighters. They would not be trifled with, nor would they abandon a position once taken. "Resist the devil and he will flee from you, said St. James; but resist a Scotch-Irishman and he will flee at you and keep at you until you yield."

No one knew better than Washington the sterling qualities of this race, and he paid it the highest complement ever paid to any people. After crossing river after river with his broken army, in the darkest hour of the Revolution, some one asked him how far he meant to retreat. He replied that if forced to cross every river and mountain to the confines of civilization he would make his last stand with the Scotch-Irishmen of the frontiers, then plant his banner, and still fight for freedom. "They were the advance outposts of the progressive civilization of that day." As a race, they have not bartered their country for gain, nor refused to defend her in need. They have been God-fearing, patriotic citizens even to their children's children.

The Hon. Benton McMillan, in an address before the Scotch-Irish Society of America, once said:

"I rejoice that there is Scotch-Irish blood in my veins, not simply that it is Scotch-Irish, but because it gives a little more grit and a little more resolution to see the right and the courage to do it, and be a better American citizen."

THE BEST KIND OF WORK.—If we work on marble, it will perish; if we work upon brass, time will affect it; if we rear temples, they will crumble into dust; if we work on immortal minds and imbue them with good principles—with the just fear of God and love of their fellow men—we engrave on those tablets something that will brighten for all eternity.—DANIEL WEBSTER.

SOMETHING BETTER.

Grace, who lives in Tioga, is barely five years old. She was in the front yard the other day, when two of her small admirers climbed over the fence. She recognized her duties as a hostess, but the end of a stick of lemon candy remaining in her hand was too small to be divided. Tommy was in the lead; he is a chubby youngster, with an insatiable longing for pie. His chum wears long curls, and is fonder of fairy stories than anything else. Grace was aware of their limitations. When Tommy ran up she proffered the eagerly accepted candy to him. Then she turned to his chum with a radiant smile: "But I'll div you a tiss."—[Philadelphia Record.

Marion, four years old, is a cunning little Mount Vernon girl, who attends the Methodist Sunday-school. Not long since the golden text of the week chanced to be the verse from Matthew commencing, "Let your light so shine." When Sunday came the little maid trotted off to Sunday-school with her older brothers and sisters, and when the teacher asked her for the "golden text" she promptly slid from her seat and repeated gravely, "Keep your gas burnin'."—[Truth.

PHYSIOLOGY TOPICS FOR JANUARY.

PRIMARY — Parts of the body; its care. The head; parts, care. Beer; other bad drinks made from grains. Blood; appearance, uses, needs.

INTERMEDIATE—The skin; uses and care. Framework of the body. The kidneys. Muscles and muscular action.

ADVANCED—Liver and other organs of secretion. Fermentation; alcoholic appetite.

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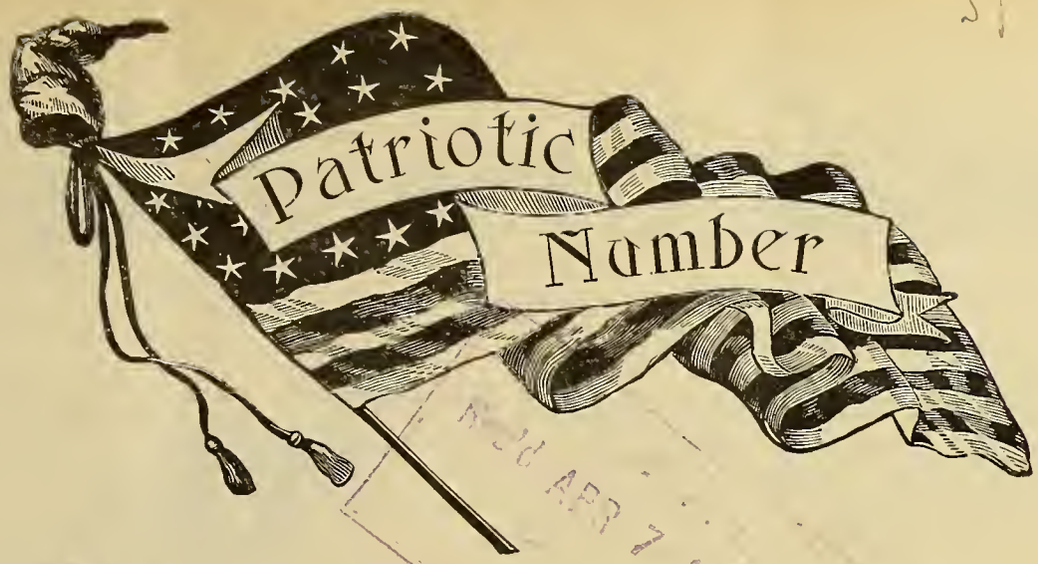

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Bequeaths the next for heritage
No lazy luxury or delight—
But strenuous labor for the right;
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Demands the deeds of earnest men
To make it better than the past,
And stretch the circle of its ken."

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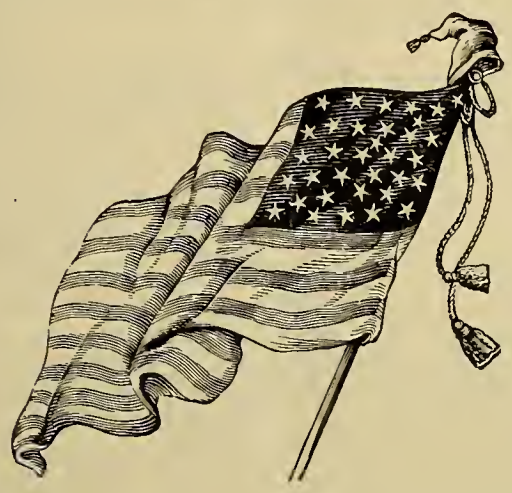

LIVING AND DYING NATIONS.

BY REV. WILBUR F. CRAFTS, PH.D.

LORD SALISBURY, in his expressive classification of the quivering map of the world did not need to specify the dying nations. Every well informed person thought the names of China, Turkey, France, and Spain. And when he said living nations, in every corner of the civilized world every reader was bound to admit that the British Empire and the United States were included. These living nations however, have some serious symptoms, and should study the dead and dying nations in order to keep out of their graveyard.

With nations once mighty dying before our eyes, we face anew the old question, "Is it necessary that a nation should grow old and weak and die?" As a matter of fact, nations have hardly averaged as long a life as the patriarchs, and there is no Methuselah among them. We are easily deceived by old names on the map. The body politic which bears the name to-day, may be but a young namesake of a body politic deceased that once occupied the same territory.

Where are the nations of which we read in the Bible and the classics? The world empires of the Egyptians, Hittites, Assyrians, Persians, Macedonians, Romans, died in turn. We read Egypt on the map, but there are no Egyptians. The word Greece is on the map; but alas, the recent war showed that there are no Greeks. Of all great races of antiquity the only ones that survive are the great prophetic races, the Jews and Arabs, both long ago dead politically, surviving only as subject peoples.

Turn to the map of to-day. This continent is the new world; our own young nation, hardly older than some of the centenarian citizens, the elder brother among American republics. Africa in its civilized governments is a yet newer world. Even Europe is new politically. The present government of Spain is an infant in many senses. The French republic is an epileptic child. Germany's emperor is known as the infant terrible of Europe; and his empire is hardly older or more stable. The kingdom of Italy too, is still struggling with the diseases of childhood. Great Britain's present monarchy goes back only to Cromwell, and real constitutional government only to the coronation of Victoria. Russia claims a thousand years; but it is a thousand years of savagery, and the nation has not yet borne a long test of civilization.

Surely we shall find some old nations in Asia. First we come upon Turkey, called the sick man, but really dead, and only kept from burial by the quarrels of the undertakers. Japan's Mikado claims an ancestral royal line of six thousand years, but as a civil ruler the present Mikado is the first of a new series. But China surely is old. Nay, the present Manchu empire began in 1796, has already died, and is on the dissecting table under the knives of Europe.

Must every nation, must our own, grow old and die? Nay, for in the very nature of the case, a nation may be immortal like a river, its drops ever passing on to the sea, but ever renewed from its mountain springs. If we maintain the Christian morality and popular education which Washington declared to be the high sources of national prosperity, and keep unbroken on either hand the banks of liberty and law, our nation's life may go on ceaselessly singing like the river:

> "Men may come, and men may go, but I go on forever."

Eternal life to a nation can come only through eternal vigilance. Many who firmly believe nature goes by law, act as if history went by luck. As surely as effect follows cause Babylonian vices will produce a Babylonian fall.

Babylon, Greece, Rome, the Renaissance kingdoms of Italy, and France, form a national series, all showing that the highest art, if it be mental culture without moral, not only can not take the place of religion in checking immorality, but ever increases it, dragging the nation down the three steps to national ruin; first moral, second physical, and third political decay. France is on the second step, the only civilized land in which the birth rate is falling below the death rate, a blazing warning on the walls of this modern Babylon of the retribution

to men and nations that follows the violation of the fourth and seventh commandments.

Moral questions should be the supreme questions in politics, those that conform to Gladstone's definition of the purpose of law—"to make it as hard as possible to do wrong, and as easy as possible to do right." Better a man be not educated, if his conscience is not to be developed with his wits, lest he be only the more skilful criminal. "An ignorant thief may rob a freight car, but an educated thief will steal the whole railroad."

If France is dying through neglect of morality, why is China also dying which has given more attention to moral teachings than any other country? China's warning is against a morality that ignores God. When the pretty but powerless sayings of Confucius and Buddha were being paraded at the World's Parliament of Religions, by men of Asia who were significantly unaccompanied by their wives, I should like to have interjected this one question: "How do you treat woman?" Like a flash-light that question exposes the failure of the best agnostic ethical culture to produce those two essentials of social welfare and national prosperity, good morals and human rights. The Bible in the schools has had a great influence in producing these two essentials in our American history. We take a great risk if we throw overboard this sheet anchor of our ship of state.

In the words of Wendell Phillips: "The answer to Confucianism is China; the answer to Buddhism is India; the answer to the Koran is Turkey; the answer to the Bible is the Christian civilization of Europe and America."

"Better fifty years of Europe than a cycle of Cathay."

Spain is a medieval ghost, wandering about the nineteenth century, vainly attempting to rule its colonies by medieval methods of grasping despotism. Let us not approach the consideration of Spain in any spirit of revenge. Not hatred nor honor, but humanity is our commander-in-chief. For the first time in all history a nation has waged a great war to secure the independence of another and an inferior people. Let our pity not cease till every island oppressed by Spain is freed. Let us also pity the Peninsula, where long misrule has created the spirit of revolution. In that broadening humanity which the war has developed let us find a place for Spain's own people. But while we pity Spain let us also search out the meaning of her decline. It is not chiefly a matter of climate, for Anglo-Saxons maintain free governments in all climes. Nor is Spain's condition so much due to Catholicism as many Protestants suppose. Germany, the home of Protestantism, has less civil liberty than Catholic South America. Spain's arrested development is no doubt largely due to the Inquisition, that killed or banished every one who believed in progress. Like the massacre and exile of Huguenots from France, this was slitting the arteries and letting out the nation's best blood.

There are three necessities of life in a republic: intelligence, conscientiousness, and a spirit of equality. In order to develop these the relation of master and servant must be broken every week by general observance of the Sabbath. The day must also be protected from dissipation, that there may be opportunity for mental and moral improvement. The Sabbath, as observed in Great Britain and the really American parts of America, makes men, while the holiday Sunday keeps the people that have it in childhood, forever at play.

Hallam, the great philosopher of history, says that the shrewd despots of Europe have studiously cultivated a love of Sunday pastimes to keep the people quiet under political distress. Beside this let me put a terse Fourth of July saying of Bob Burdette's: "The Declaration of Independence was not written in a beer dive on Sunday afternoon, not by a long shot."

We excuse the German's law-defying Sunday beer garden as a national custom. As well allow the Turk liberty to bring his harem, and the Spaniard his bull-fight. The great war of this generation is not the easy conquest of Spain, but the long war with continental institutions, that are being introduced like Spanish fortresses into our cities.

All nations without a true Sabbath are poor every way. They are also the worst off politically, vibrating between the extremes of despotism and anarchy, while Sabbath-keeping peoples enjoy the golden mean of liberty under law. God said to Israel: "I will cause thee to ride upon the high places of the earth." The supreme fact of living history to-day is that the Sabbath-keeping nations are literally riding upon the high places of the earth.

THE MAKING OF PATRIOTS.

The public school, with the home and with the church, is the nursery of American patriotism. . . . Train your children in the rudiments that make for citizenship; train your children in that larger cultivation that stands for patriotism. Put the flag above every school-house, as you would put the cross above every church. Put the schools of this country into the politics of the country, and keep the politics of the country out of the schools of the country.—Gen. Stewart L. Woodford.

"He serves his country best
Who lives a pure life and doeth righteous deeds."

Primary Lesson

HONESTY.

THE child takes his first lessons in citizenship when he begins to associate with other children and learns that they too have rights which he is bound to respect. Henceforth he is part of a community in which he must be trained to live, enjoying its privileges and as cheerfully assuming his share of its burdens and responsibilities.

The mature citizen has few principles to grasp which do not also confront the child upon the play-ground or in the school-room, and the boy's choice to-day is educating the statesman or the scoundrel of to-morrow. Honesty, truthfulness, courage, are the slow-flowering product of a life time, and the seeds of these virtues must be early planted to insure a vigorous growth.

It has been asserted that "school life is so full of temptations to falsehood that an honest child is its rarest as well as its noblest work." Let each teacher resolve instead that her little domain shall be the training school in which this virtue is both taught and practiced, and from which her pupils shall go forth stalwart patriots, and citizens whose word and vote are unimpeachable. Precept alone will not achieve such results, nor will children through their own unaided instincts develop sterling character. The two must go hand in hand. Explain what is meant by honor, loyalty, justice, through frequent classroom exercise, through story, picture or historical illustration; then make sure that every child is able to translate these terms into genuine every day activities, on the playground as well as in the school-room, and furthermore that he actually does so.

The schoolboy's code of honor is the standard by which the patriotism of men is to be measured and judged, and in the formation and maintenance of this code the influence of the teacher is paramount. Thomas Hunter says: "It is the glory of the United States that order, peace and good government are maintained not by a standing army of soldiery, but by a standing army of four hundred thousand teachers . . . the propagandists of honor, courage, and patriotism."

The Lesson.

In giving a lesson on Honesty primary children must first be taught what is meant by this term. Ask all who have seen a tall man to raise their hands; then those who have seen a short man, a negro, an Italian, a Pole, a Chinese. Talk with the children about the special characteristics of each of these peoples until all know how they recognize them. Then ask how many know an honest person when they see him; if he dresses in a different way from other people or walks differently. Give all a chance to express themselves on this point, and very likely some child will bring out the true idea:

An honest person is known by what he says and does.

Teacher—"There are many ways in which one can be honest. Let me tell you one way." It's a story about

Bob and His Grandmother.

"What in the world!" said grandma Leslie. Bob was just coming round the corner with both pockets bulging out as if they would burst. When he saw grandma he started back, but she called him to her, and said in her cheery tones—Bob always declared she was the jolliest grandma in the world—"Well, Bob, what have we here?"

Very slowly the boy began to unload his pockets. He didn't look up for he knew what grandma would say. When there was quite a pile of hickory nuts in her lap and more on the little stand by her side, Bob began to explain.

"You see, grandma, Mrs. Ware has such a lot of 'em on her tree. And she can't pick 'em up, an old lady like her. And she couldn't eat 'em anyway, 'cause she hasn't any teeth. An'—"

"And so my boy asked her if he could help himself, did he?"

Bob kept his eyes on the floor. He had been dreading this question.

"Always tell the truth, my boy," said grandma, and presently Bob owned up like a man.

Show the picture of Bob and his grandmother to the children, and talk with them about it.

Ask why Bob did not want to meet his grandmother when he was so fond of her; why he hung his head and dreaded her questions; how he came by the nuts in his pockets, and whether it was right for him to have them. Was he an honest boy in taking the nuts? In telling his grandmother about them? What ought he now to do with them?

Teacher—"Who would like to finish the story, and tell us what Bob finally did with the nuts?"

Get as many different ones in the class to end the story as you can, then bring out the main thoughts to be written on the board.

An honest person never takes what does not belong to him.

An honest person always tells the truth.

Teacher—"Bob had a good many talks on honesty with grandma Leslie after this, and when he went to school he was so careful never to take what belonged to anybody else that the children called him—what do you think?—Honest Bob.

"Would they have given him this name if he had borrowed some other boy's pencil and kept it himself? If he had ever taken an apple out of some other child's desk when no one saw him?

"Tell me all the ways you can think of for a boy to be honest. Do girls need to be honest too? How can a girl be honest?

"There are other ways of being dishonest besides taking things which do not belong to us. Let us see what some of them are."

Rose and Her Tea-Set.

Rose wanted a doll's tea-set more than anything else. One day her father promised to buy her one if she had perfect lessons at school every day for a week. Rose studied very hard and when Friday came she had not missed once. She began to feel very sure of the tea-set. In the spelling class the word "kitten" came to her. She began "c-i-t kit-" The girl next to her felt sorry for Rose. She knew about the tea-set and she wanted to play with it after it was bought, so she touched Rose's arm and whispered, "k-i-t-." Rose tried again. This time she spelled the word correctly.

"Well, Rose, shall I buy the tea-set to-morrow?" said her father that night.

Rose showed him her card. Every lesson perfect for the week. But she looked very unhappy and there was a lump in her throat when she thought of the tea-set. By and by the whole story came out. Father took Rose on his knee and they had a long talk.

"Always tell the truth, my boy."

Teacher—"What do you think he said? I will write some of the things on the board for us to remember."

An honest person never cheats in his lessons.

An honest person does not try to make people think he knows what he does not.

Teacher—"You will be glad to know that Rose's father gave her a second week to work for her tea-set, and that this time she earned it honestly.

"Who knows another way to be honest? See if you can find out from this story."

The Two Sleds.

There were three boys and only two sleds, so they took turns in riding down the long hill. Kent and Ralsey went first, then Ralsey and Olin, then Olin and Kent.

"Which boy gets the most rides?" said a man who was watching the fun.

"Oh, we get just the same," cried the boys in a chorus. "'Twouldn't be fair any other way."

"Well, you boys are honest, that's certain," said the man. "Keep right on and you'll make good men some day."

Teacher—"Kent and Ralsey were larger than Olin. Suppose they had ridden more times than he and left the little fellow out because he wasn't big enough to help himself, would that have been fair play? Why not?"

Talk this story over with the class until they catch its spirit. Then write on the board:

An honest person is always fair in his play.

An honest person never tries to get the better of anybody else.

Teacher—"There is one more way of being honest for us to think about this morning, and I'll tell you one more story to show you what I mean. It's about two boys, a dog, and a kitty cat." We'll call it

A One-Sided Picnic.

Mrs. Russell was making ginger-bread while Frank and baby Ned looked on. When the last tin full came from the oven they both clapped their hands. There was a big ginger-bread boy for Frank, and a smaller ginger-bread boy for Ned, with currants for eyes and a funny little quirk for the mouth. But funniest of all was the ginger-bread dog with the long bushy tail for Noble, and the ginger-bread cat with her back all humped up for Topsy.

Noble was a fine large shepherd dog, Frank's special pet and playmate, and Topsy was the prettiest little tortoise-shell cat that ever said "mew."

"Call Noble and Topsy and then you can have a picnic out in the yard," said Mrs. Russell. "Here is some milk for you too, and you can give your pets some in their saucers."

Somehow the ginger-bread boys looked very small when the picnic was all ready.

"I'm just going to taste of Noble's ginger-bread," said Frank when he had finished his own cake. "Just a teen-y bit. I don't think mine was quite so large as his, anyhow."

So Frank nibbled the ginger-bread dog and Ned nibbled the ginger-bread cat, until by and by they were all gone.

"I don't believe they'll want just milk without anything to eat with it," said Frank, and pretty soon the milk disappeared too.

Just at bedtime little Ned ran out to the kennel to say good-night to the pets. He thought about the picnic and it made him feel bad.

"Poor Noble," he said, looking up into the dog's face, "are you dreffle hundry? I'll div' you some more milk to-morrow."

Noble thumped his tail hard against the floor, his only way of talking, and looked as hungry as he knew how, while poor Topsy mewed piteously from the door. She was hungry too, for she hadn't found a mouse all day.

When Mrs. Russell tucked her boys into bed that night, she asked about their picnic. Don't you suppose she felt sorry when she found how Noble and Topsy had been cheated out of their share?

"I thought I could trust my boys," she said. "Do you suppose I can after this?"

Teacher—"How many think Frank and Ned were honest with their pets? Why not? Why did their mother say she could not trust them? Why was it specially naughty for them to rob their pets of a share in the picnic? Who can tell me another thing that we mean by being honest?"

When all the children have the thought, write on the board the sentences:

"Poor Noble! Are you dreffle hundry?"

An honest person never cheats even his pets.

An honest person can always be trusted.

The different stories given above may be used as a basis for several lessons on Honesty at such intervals as may commend themselves to the teacher. Sufficient time should be spent on each for every child to grasp the principle involved. Give frequent reviews in which the stories may be retold by different ones in the class, and afterwards discussed by the other children.

Encourage the children to tell little stories of their own illustrating different forms of honesty. All the points of this lesson should be brought out in final review and written on the board for the children to repeat, singly and in concert. When this has been done write above them the Golden Rule in fanciful gilt letters, and tell the class that these are ways in which each of them may help to keep it.

THE WORLD'S NEED.

WE need teachers who will understand, and will manifest in their daily lives that they clearly understand, that there is a wide difference between getting a living and getting life; as much difference as there is between earth and God's blue sky. We need men and women who are willing to move forward quietly and humbly, with all due sense of their imperfections; yet who propose to move forward, and who will stand four-square to all the winds that blow. We need men and women who will make themselves felt in the community, as well as simply known. We need men and women who, when they pass down the street, will carry with them something of that pervasive influence referred to by a friend of mine in a western city, who said, as I pointed out a quick-stepping young fellow: "Why, when that man walks down Main Street real estate goes up 15 per cent." We must have men and women who can stand steady under fire. What a superb courage that demands, and yet how many a forlorn hope has been wrought into glorious victory by that courage. We need men and women who do not fear to express themselves lest they may possibly find themselves without a place; men and women, who, because they dare express themselves honestly, intelligently, unselfishly, earnestly, nobly, truthfully, are never out of a place.

Give us a keener and larger appreciation, each in his own sphere, of the power to dream dreams and to see visions—of the desirability, of the necessity of this power. Woe to the land and to the people thereof when their prophets prophesy no more and their people no longer see visions.

Come out from among the stúff, stand head and shoulders above your fellows, be anointed with the holy oil of a divine enthusiasm.—JAMES H. CANFIELD.

"The qualities of honesty, energy, frugality, integrity, are more necessary than ever to-day, and there is no success without them. They are so often urged that they have become common, but they are really more prized than ever. —MARSHALL FIELD.

A gentleman observed his little son attentively studying a map of the world. "What place are you looking for, Willie?" he inquired. The small boy knit his brow, and traveled a circuitous route with his forefinger before he answered earnestly, "Twyin' to find Christendom."—[Ex.

This nation, if it would continue to lead in the race of progress and liberty, must do it through the intelligence and consience of its people.—WILLIAM MCKINLEY.

PROGRESS.

LO, progress is no swift release from error,
No sudden sun that banishes the night;
Through weary cycles, man the burden-bearer,
Gropes in the dark and struggles toward the light.

Development, unwearied, outward courses
Through deepest darkness, with resistless tides;
Brain throbs and heart throbs are the deathless forces
That lead us, lift us, where the day abides.

—FREEMAN E. MILLER.

POWER IMPLIES RESPONSIBILITY.

THERE are times in the life of a nation, as of a man, when to shrink may mean to shrivel, when unwillingness to accept greater responsibilities may indicate a loss of self-confidence prophetic of failure in the narrower sphere.

Because democracy is a government and not merely a set of ideas, because it is an incarnation and not a spirit floating as it were in the air, it can become triumphant democracy only as its body, its government, is found sufficient for the purposes for which governments exist. If a man's creed does not make him a better and stronger man in any sphere that a man should occupy we care little for that creed.

If it is effective in saving him and not effective in helping him to save others, the world will not give it much attention. If a theory of government is effective only in securing the right to life, liberty and the pursuit of happiness to the immediate subjects of that government, and does not give them power to secure the same right to others when opportunity offers, then the theory will not be generally accepted in an age that emphasizes the obligations of common brotherhood.

Not alone for ourselves, but for humanity, was our Constitution written and our Union preserved; not for ourselves alone, but for humanity, have our resources been developed, our colleges founded, our churches built, our free institutions established; not for ourselves alone, but for humanity, has our country trained her citizens to love mercy and truth, and to seek the peace that follows righteousness.—ANDREW V. V. RAYMOND.

THE PERFECT MAN.

Man's perfection is the crowning flower
Towards which the urgent sap of life's great tree
Is pressing, seen in puny blossoms now,
But in the world's great morrow to expand
With broadest petals and with deepest glow.

—GEORGE ELIOT.

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THE APPEAL OF THE FLAG.

THE manner in which we are able to meet the responsibilities of our new possessions will have a strong reflex influence upon our future as a nation. Spain's corrupt selfishness in dealing with her colonies was her own undoing.

The problems that wait the solution of your pupils, teacher, as they come to the stage of action, are not so likely to be those of conquest as of administration. For this they should be in training under your tuition to-day. A rare opportunity has come to you, to help shape the future destiny of our own nation and that of the races over which our flag now floats.

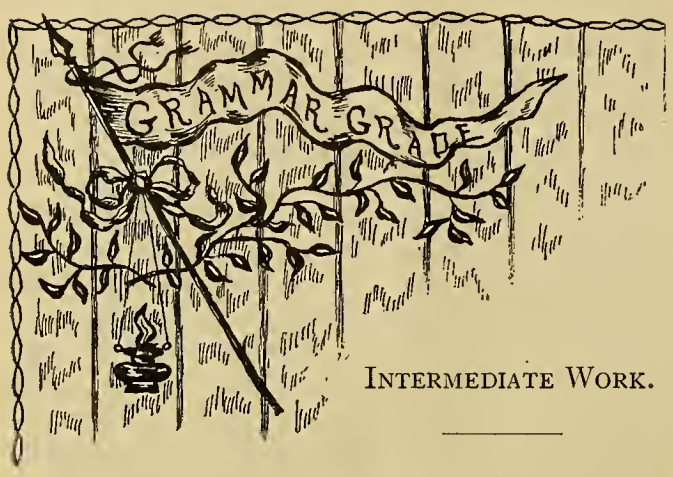
First of all, your pupils need to be taught loyalty to trust, especially for the public good. Teach them that it is their government, their country, their flag; that to cheat or defraud their government is to cheat what is their own; that it is as mean and contemptible as to cheat one's mother, and is contempt of the flag whose deep blue stands for loyalty to our country in administering its affairs in times of peace as well as war.

Alcohol has such power to change the whole mental and moral nature, that it is the mother of every vice which endangers the character of citizenship. The teacher who puts his best effort of brain and heart into the lessons of physiological temperance which the law requires taught, is thereby rendering the most patriotic service possible to the country under whose flag he is teaching. Every color of that flag, its red, its white, its blue, its stars and stripes as they shimmer in the light over your school are all saying to you: "Teacher, I want sober men and women to represent that liberty which I proclaim wherever I am unfurled." As it bends and curls and straightens itself in the winds of heaven over your school house the flag is saying: "There should be no slaves in all the land over which I float. The victims of alcohol and other narcotics are not free men. They are bond slaves who love not freedom, but their enslaver. The chains of those enslaved are so hard to break I want strong young men and maidens who are taught to abhor this enslaver, and who will lead, by the power of a sober, pure example, up the lofty heights of human freedom to which I beckon all men."

There are teachers who can answer to this appeal of the flag: "Yes, yes, they are coming! they are coming! By example and instruction I am training my boys and girls to know that alcohol and other narcotics are their own and their country's worst enemies." Over such teachers the flag is saying, "These are my patriots. To them I whisper the lofty aspirations that Washington heard at Valley Forge, and amid the ice as he crossed the Delaware; that Lincoln and Grant heard as the shackles fell from the African slave; that my brave boys in blue heard on the sea and on the land as they endured in tropical camps, and fought to free the dusky sons of Cuba. These teachers are they who shall free my people from the worst of all tyrants and make this the land of the free and the home of the brave."

OUR SCHOOLS ARE OUR ARMIES.

WE have said in the past that our public schools are our standing armies, and that in these we train a citizenship which does not require to be kept in obedience by bullets or bayonets, because the school teaches them that liberty under law is freedom and the genius of the republic which they are taught to love. To establish such schools in our new possessions, not only free to all, but which all of school age must attend, is the first step toward civilizing these new inhabitants for whom we are, for a time at least, responsible. Over every school-house in Cuba, Porto Rico and the Philippines, as in our own country, should float the flag of the nation which has poured out its blood and treasure to give these people freedom. Every child in these schools should be taught the deep meaning of that flag. They should be taught that its stripes of white stand for that purity, sobriety, and cleanliness of life and conduct, without which no individual and no nation can be strong; that its blue stands for truth between man and man, and for obedience to such just laws as make safe society and good government; that its stars represent the great aggregations of people who live and work together in peace and prosperity, under a government of the people, for the people, and by the people; that the deep red not only stands for the life blood which has been poured out for the freedom of all who live under its protection, but that this crimson in its folds constitutes also a pledge that the land of the free shall ever be the home of patriots who will never falter when their country needs defence.



INTERMEDIATE WORK.

LIBERTY UNDER LAW.

THE famous Rough Riders had to learn obedience to orders as their first lesson in war. There was no lack of fighting material in those gallant troops from Western plain and Eastern university, but weeks of drill and discipline were needed to mould this shapeless mass of heroism for effective service in battle. The same splendid possibilities exist in every public school; not, as we hope, for war, but for the no less strenuous demands of peace. Mighty problems are pressing for solution, and their settlement calls for disciplined minds and patriotic hearts.

The fundamental principle of our government is liberty, not for the few or the many, but for all, and such liberty necessitates on the part of every citizen respect for the rights of others, hence laws have been enacted to which men voluntarily submit themselves for the common good.

For the tremendous responsibility of self-government it would seem that the most complete and thorough training is essential, but in too many schools it is utterly ignored. No man thinks of educating his son for the ministry and then expecting him to succeed in the saw-mill business, but teachers show a corresponding lack of discernment when they attempt to train citizens for the republic in the monarchical atmosphere of the average school-room.

The child must learn to govern others by controlling himself. How is this possible where he is too often watched and suspected and where his eye is single to outwit the teacher? There is not a boy or girl in the intermediate and upper grammar grades to whom the story of the founding of this government will not appeal, and who can not be taught the foundation principle of liberty under law upon which it is based. Give them this knowledge and help them to apply it to their own self-government, and when the responsibilities of a wider citizenship rest upon their shoulders the victories of Santiago and San Juan will be surpassed by the greater triumphs of an upright statesmanship and a pure and honest ballot.

THE LESSON.

Before giving a lesson on any phase of citizenship the teacher will need to read carefully some standard authority upon the science of government, to shape her own line of thought and prepare her to answer questions brought up in class. The topic suggested for this lesson will be found of special interest to intermediate pupils, and should be so clearly and forcefully presented as to convince the most lawless of the necessity of wholesome restrictions upon individual liberty, both for their own sake and for the well-being of society.

WHAT IT INCLUDES.

Call upon some member of the class to read aloud the opening sentences of the Declaration of Independence. If possible, let the pupils themselves explain the purpose for which this document was written and the circumstances which led up to it. If no one in class is familiar with the facts, tell the story yourself as simply and graphically as possible or read it from some United States history, until the idea of liberty is brought out as the central thought. Then make clear, either by question, story, or reading, that after this liberty was achieved the second great act of this country was to form and adopt a constitution as the fundamental law of the land, thus making the government of the United States one of liberty under law.

In order to bring out the pupils' own idea as to the meaning of this phrase, ask them, while you write their answers on the board, to dictate some of the things which a citizen has the right to do under such a government; then call for examples of what he may not do. Find how many can give reasons for their statements. If these are unsatisfactory, as many probably will be, have ready a pile of questions written on separate slips of paper, one for each pupil, to illustrate this point still further. For instance, such questions as these may be chosen:

Has a man the right to travel anywhere he likes in this country?

May any one buy a house, a farm, a flock of sheep whenever he wishes, or sell any property belonging to himself?

If a man needs wood may he cut down a tree in a public park, or one growing on a village street?

Has anyone the right to enter a store or bank and carry away anything he likes without permission?

May persons living in a city have the snow cleared from their sidewalks or not, just as they choose?

Have these questions and similar ones read aloud and discussed one at a time, until the underlying principle in each case is discovered.

Then write this on the board, perhaps in the following shape:

Liberty in the United States means the opportunity for everyone to do as he pleases, provided he does right and does not interfere with the rights of others.

Why it is Right and Necessary.

Ask some one in the class to write on the board the names of the most important countries already studied about in the geography lessons, while a second pupil, or the entire class, divides these into lists, one comprising those countries where all people do as they please without laws to govern them; a second, of countries where the people have little or no liberty and no voice in making the laws which they must obey; and the third, of those nations whose government is one of liberty controlled by law.

The early Indians and savage tribes of different countries will be thought of by some child as examples of the first; such absolute monarchies as Turkey and Russia as instances of countries where laws are made and inforced without regard to individual liberty; and Great Britain and our own country as nations whose people have the utmost possible freedom, but a freedom always controlled and regulated by laws which they themselves have made.

Ask the class to decide in which of these countries the people are most cultured and civilized; in which are to be found the largest proportion of those things which people most need, such as schools, churches, books, newspapers, comfortable homes, labor-saving machinery; in which countries men can most easily find employment and earn the best wages; and which produce the largest number of inventors, scholars, statesmen, and artists.

When they have done this, ask why none of these things are possible in tribes and countries where there is no law, and where each man is free to follow his own pleasure. This will bring out the fact that men are not fitted to live solitary lives and do everything for themselves as birds or fishes can do. People need the constant help of one another in order for each to have the opportunity to develop his own talents, and so they must live a common life, governed by rules and regulations which apply to all.

Emphasize this fact still more by asking all to think of the amount of work required, and the number of men needed to bring one a letter from a distant state; to get together the sugar, flour, vegetables and meats required for a single meal; or even to get one's shoes or any other article of clothing made.

If each man looked after all these things for himself, and everything else which his own family needed how much time would he have left for other things?

Ask next why those countries which have the most stringent laws and which allow the people least liberty do not have modern improvements and the most enlightened citizens. Help all to see that people can have very little ambition or interest in any kind of work when they have but little freedom, and when the largest part of what they earn is taken from them by heavy taxes. All should now be ready to give one reason why a government of liberty under law is best and wisest for any state — because it helps every man to do the utmost for himself.

Bring out another strong reason by helping the class to decide which of the countries already mentioned form the wealthiest and most powerful nations; which are best fitted to take the lead in great enterprises, and which have

done most for the world as well as for themselves. When all have made their selection, which without doubt will be the same in every case, and which will include those countries which are freest and which have the best laws, call for special instances in which these countries take the lead, and show how such a form of government has helped to make them great and powerful.

They will be quick to think of the postal and banking industries of the world, of railway, telegraph and telephone systems, of immense agricultural, manufacturing and commercial interests, and equally quick to see that by far the greatest part of all work which requires thought, energy and brains has been done by free people living under good laws.

Call for other ways in which such countries have become great, and recall all instances of the kind given in their histories or which may be known to the class in other ways.

Take special care to show that because governments of this kind do most for the people, they in turn are both entitled to the loyal love of their citizens and are the most likely to receive it.

Sum up all points thus brought out into a second reason for the necessity of giving people a government of liberty under law — because such a government makes the nation strong and influential.

How it is Secured.

Every grammar school pupil in the United States is already convinced that his own country is the best example of a government of liberty under law. If your class do not know how this government was formed in the first place, read aloud from some school history the chapter which makes this plain; then explain simply, unless some boy in the class can do it for you, how our people to-day can make laws and carry on every branch of this great government when so few of them ever go to Washington at all.

When all understand that our government is made and carried on by consent of the voting citizens, put on the board these questions:

When does a child become a citizen?

When do his duties as a citizen begin?

Very likely it will be a new idea to many in your school that every child born in this country is a citizen of the United States, and that they are really the citizens to whom some day will come the responsibility of carrying on the government wisely. See that they get this thought however, and the equally important idea that their duties as citizens have already begun. Some in the class will be sure to question what these duties are and how they are to perform them. Lead them to right answers by asking all to find out from their fathers or older brothers what are the most important duties of a voting citizen. As soon as these are learned have them written on the board until quite a list has been collected; then take them up in class discussion.

For instance, suppose they find out that a good citizen pays his taxes, helps maintain law and order, never defrauds the government, works for its best interests, is always loyal and patriotic, makes the most of himself that he may do most for his country. Help them next to apply each of these statements to themselves, and show that it is just as necessary for a boy to pay his debts and never cheat his fellows, as for a man to keep up his taxes; that the child owes justice to his playmates quite as much as the chief justice does to the country and the world; that rules and regulations are needed in the school-room as well as in the country, and should be given the same loyal obedience; that it is as important for them now to keep their own school grounds and buildings neat and free from litter, as it will be in later years to keep towns and cities clean and healthful to live in.

Bring out in a similar way all duties of the mature citizen, and show how the germ of each appears in the school-room, on the play-ground, or wherever the child begins to associate with other children, and that it is only by fair and upright dealings here that he can fit himself for the noblest service to his country.

A most important point to be brought up in this connection is the relation of alcoholic drinks to good citizenship. Ask each pupil to imagine himself in Robinson Crusoe's place, and then write a list of all the things he is indebted to society or his country for. Then call for second lists showing what each man owes to society and his country in return for what he has received from them. After these have been filled out as well as possible, write on the board the unfinished statement:

The use of alcoholic drinks is opposed to good citizenship because—

Every member of the class may be asked to copy and finish this sentence. The results should bring out what they have learned in their physiologies and from their own observation in regard to the physical and mental ruin wrought by these narcotic poisons, and their power to pervert moral nature, incite men to crime, and fill our poor houses, prisons and lunatic asylums with helpless victims.

There are yet some great battles to be fought, some great enemies to be encountered. But the most pressing enemy is drink. It kills more than all our newest weapons of warfare, and not only destroys the body, but the mind and soul also.—Lord Wolseley.

High School.

PRACTICAL QUESTIONS ANSWERED.

IT is a beautiful thought, attributed to Marcus Aurelius, that one must hold to his ideals, even as the imperial robe retains its characteristic purple while a shred of the fabric remains. No man can raise for himself a nobler standard of patriotism than that set before the Jewish nation as the requirement of Jehovah: "What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God." As long as man is indebted to society for language, manners and morals, so long will he owe allegiance of head and hand and heart to the laws and governments which make civilized society possible. If he shirks this allegiance he is no patriot.

Not for himself alone has the citizen of the United States been endowed with finer facilities for personal advancement than the inhabitant of any other land can boast. He holds his powers of mind and body in fee for his country, and for the betterment of the world. Has he then the right to neglect these opportunities, to befog his intellect, and degrade his manhood by indulgence in those narcotic poisons which destroy nations as well as men? "No man liveth to himself," and no citizen of the republic stamps a zero upon his own character without belittling his country and his flag.

The questions cited in this lesson bring out some of the strongest reasons for total abstinence. They are asked in state examinations, and referred to us by puzzled teachers. The eminent authorities quoted in reply may be relied upon to furnish the latest and most authentic information gleaned from chemist's laboratory and physician's practice.

Give this information to your pupils. Make it a patriotic lesson. Show why the life and character of the citizen is inseparable from the destiny of the nation, and how each boy and girl has it in his power to help make or mar the country he loves.

Does Alcohol Give Strength?

Why does a person feel stronger immediately after partaking of an alcoholic beverage? What are the after effects?

The sense of well-being after taking alcohol is due to its benumbing influence; its supposed building-up action is only an irritation from an effort of the system to get rid of the drug; it exhausts vitality therefore more quickly, and hence ought to be regarded as a poison.—Chas. H. Shepard, M. D., Brooklyn, N. Y.

The exhilarating effects of alcohol, momentary as they are, are in no sense specially characteristic of alcohol; they only result from local irritation with reflex radiation, and in reality the characteristic action is depressent and narcotic. In the last analysis it seems the first effect of alcohol is due only to its irritating action on the stomach, and alcohol is hardly more a stimulant to the nervous system than mustard for example; whereas what is alone evident is the depression of the nervous system.—E. Destrée, M. D., Prof. in the University of Brussels.

It is quite beyond doubt that every dose of alcohol, even the most moderate, diminishes strength. All that man asserts of the strengthening effects of alcohol, is founded on a delusion. The well-known poor man's glass during working hours is beyond question injurious. Every penny which the workman spends for alcoholic drinks is not only wasted but employed for a destructive purpose.—Adolf Fick, M. D., Prof. of Physiology, University of Würzburg.

The influence of alcohol upon muscular work has been established experimentally; it has been demonstrated that man works better when he does not use this pretended stimulant. It excites at first, but this excitation is altogether transient and is followed immediately by depression. — Dr. De Vaucleroy, Prof. of Hygiene in the Military School, Brussels.

A healthy man, with well-aërated blood, taking nourishing food, and giving every part of his body a certain amount of rest, is able to accomplish a definite amount of work, the maximum being attained when the work can be done at regular intervals, and in a definite period. No amount of alcohol, however given, can increase the amount of work done in that same period without giving rise to very serious disturbances in some part or other of the body; indeed, the amount of work is never increased, as any temporary excitement is invariably followed by depression, of such nature that the increase of work supposed to be done during the period of excitation is far more than counterbalanced by the diminution in the amount of work done during the period of depression.—G. Sims Woodhead, M. D., London.

Alcohol is a poison and a paralyzant in its effects on the body. This latter action is an

explanation of its peculiar fascination to all persons in all circles of society. It is an anæsthetic, stopping pain, discomfort, and physical unrest, and creating a false impression by covering up the cries of distress and the protests of nature.—T. D. CROTHERS, M. D., Hartford, Conn.

Alcohol does not increase muscular strength nor promote physical or mental endurance.—H. D. DIDAMA, M. D., Syracuse, N. Y.

DANGER IN ALCOHOLIC INDULGENCE.

While it is difficult to show that a very moderate indulgence in the use of alcoholic beverages injures the organs of the body, yet it is true that danger often attends such indulgence. What is the danger?

If taken daily for a considerable length of time alcohol invariably creates a morbid appetite or craving for steadily increasing quantities, and sooner or later establishes degenerative changes in nearly all the organized structures of the body.—N. S. DAVIS, M. D., F. R. S., Chicago, Ill.

Alcohol possesses the power of inducing ultimately an irresistible craving for itself.—W. A. CHAPPLE, M. D., Wellington, N. Z.

The taking of a small quantity of liquor causes an inordinate thirst for more.—[London Lancet.

It is the temperate use of alcohol that creates the appetite of the inebriate.—WM. HARGREAVES, M. D.

It can be positively stated that the steady use of spirits, even in so-called moderation, is always followed by states of mental degeneration; also that no man can be of sound mind and body when using spirits steadily.—[Quarterly Journal of Inebriety.

A drunkard has never been saved by a policy of moderate drinking; in every case his rescue is accomplished by avoiding the first glass. No man who allows himself to use alcoholic drinks, even though it be only a moderate use of wine, can declare himself free from the reproach of being a tempter. Every drunkard was once a moderate drinker, and every man who by his example leads other men to moderate drinking also leads a part of them to immoderate drinking. He starts a rolling stone, which it is no longer in his power to arrest.—G. BUNGE, M. D., Prof. Physiological Chemistry, University of Basle.

The appetite for alcohol is increased by indulgence from one generation to another, until it causes the destruction of entire families.—AD. FRICK, M. D., University of Zürich.

A nation which becomes enslaved by strong drink will soon cease to be a free people.—BENJ. RUSH, M. D., Philadelphia, Pa.

AN EXAMPLE WORTH FOLLOWING.

Temperance reformers will observe with interest some of the provisions of the new German Civil Code, which is to go into force the last year of this century. These exclude from the ordinary right and privileges of citizenship all persons who, through inebriety, are unable to provide for themselves or their families, or who bring themselves or their families into danger of want, or who imperil the safety of others. Briefly stated, no sot can be a citizen. It may be at the end of 1900 some other nations will want to follow Germany's example.

WORLD-NEEDED EDUCATION.

God has dealt with us as with no other people. This richest of all continents was reserved in almost uninhabited solitude until our fathers came. Its boundless resources have furnished the material prosperity that has made it possible to develop our present civilization, and a government which depends upon the capacity of the individual citizen for self-government.

This self-government—humanity's ideal of liberty—is on trial on a larger scale in this country than the world has ever seen before.

Alcohol is the greatest enemy to this self-government upon which our free institutions rest. Because universal education of the rising generations as to the real nature and effects of alcohol will overthrow this enemy, the noblest motives that can move the human soul make it the duty of every patriotic citizen to work for such education.

Contact with noble lives imparts something of nobility to us. Why then, do we not take pains to procure such contact? One reason why little men are little is because they lack uplifting and magnifying associations. Yet very often they might have much more of such associations than they do, and their lack is in part at least, blame-worthy. It is their failure to discern opportunities for rubbing against greater people that keeps them from becoming, in some measure, great. It is frequently their own mistaken, deluded fancy that they are already great which makes it impossible for them to become great.—[Great Thoughts.

The seal, once laid on pliant wax,
Stamps its own image, cancelled never;
The teacher's lineaments of the soul
Their vivid impress leave forever.
Lay careful hand on head and heart,
While waits the youth at life's fair portal;
So shall your work in beauty wrought,
Be beauty, stamped with life immortal.

—SAMUEL FRANCIS SMITH.

EDUCATIONAL IDEALS.

THE United States have disappointed every foe and falsified the predictions of every hostile critic. The governmental framework constructed by the fathers for less than four millions of people, scattered along a narrow strip of seaboard, has expanded easily to meet the needs of a diverse population twenty times as large, gathered into great cities and distributed over an empire of seacoast, mountain, plain and forest. It has withstood the shock of the greatest civil war of all time, fought by men of the highest intelligence and most determined convictions. It has permitted the development and expansion of a civilization in which there is equality of opportunity for all, and where the highest civil and military honors have been thrust upon the children of the plain people by their grateful fellow-citizens. . . . No deeper conviction pervades the people of the United States and of France, who are the most aggressive exponents of democracy, than that the preservation of liberty under law and of the institutions that are our precious possession and proud heritage, depends upon the intelligence of the whole people. . . . That democracy alone will be triumphant which has both intelligence and character. To develop both among the whole people is the task of education in a democracy. Not then, by vain-glorious boasting, not by self-satisfied indifference, not by selfish and indolent withdrawal from participation in the interests and government of the community; but rather by that enthusiasm born of intense conviction, that finds the happiness of each in the good of all, will our educational ideals be satisfied and our free government be placed where the forces of dissolution and decay cannot reach it.—NICHOLAS MURRAY BUTLER.

CRUSADERS.

With leaping steeds and shrilling trumpet-blast,
Glitter of spears and wind-blown banners blest,
A cloud of dreams of deathless deed and hest
In domes and deserts where the East was vast,
Rode the Crusaders. Far they rode, and fast,
From heathen hands the Sepulchre to wrest;
And kingdoms shook before their mighty quest,
The bounds of empire changed as they swept past.

To-day, where sound of sorrow has enticed,
Fearless, afoot, through mire of field and fen,
Armed only with the mail of love unpriced,
Where hosts flame wide or darkness makes its den,
The glad knights seek the Sepulchre of Christ
Within the bodies and the souls of men!

—HARRIET PRESCOTT SPOFFORD.

"When snow-flakes o'er the frozen earth,
Instead of birds, are flitting."

SUFFRAGE A TRUST.

The citizen who puts his vote into the ballot-box performs an act which affects not only his own interests, but the interests of his neighbors, his fellow-beings, sometimes thousands and millions of them, for weal or woe; therefore, the suffrage is a trust of the most important character confided to him. If he exercises the power thus intrusted to him against his own convictions as to what is best for the common good, or even if he exercises it thoughtlessly, he is committing an act which is in the last degree unprincipled and immoral, a flagrant offense against the community.—CARL SCHURZ.

AMERICAN CIVILIZATION.

VI. Scandinavian and German Influence.

WITH the consideration of the Scotch-Irish immigrants to this country we passed from the nation's first stage of development to its second. The close of the Revolution established the United States as a distinct nation, "Young and lusty in her youth, but as yet loosely knit and formidable in promise, rather than in actual capacity for performance." The victory over England had given her prestige, and from being a place of escape for the desolate and oppressed, America became a paradise, a veritable heaven upon earth, to the heightened imagination of thousands in the old world. "On the western frontier lay vast and fertile vacant spaces, for the Americans had barely passed the threshold of the continent."

The mighty resources of the country, the merely nominal price of land, the individual liberty of American citizens, and the wide spreading arms of New York harbor, were an invitation millions could not resist. Europe was only too glad to be rid of her surplus population, America welcomed it. Nor were these sordid ambitions. The world's greatest achievements have been wrought for just such stakes.

The great mass of Scandinavian and German immigrants to this country in recent years have been actuated by economic and social motives. Previous to the nineteenth century several bands had landed on these shores. Still others had come individually. It should not be forgotten that these sporadic ventures date back almost to the year 1000, to the time of Lief Erickson, the Viking. About the woods of Maine and the shores of Massachusetts Bay still linger hints which the imagination fills with romantic legends. Not far from Boston stands Norumbega tower, to mark the site of the "lost city of New England."

As early as the first quarter of the seventeenth century a small shipload of Scandinavians, encouraged by their good king, Gustavus Adolphus, settled on the New Jersey coast. "The seeds of moral integrity and thrift planted by the Swedes upon the banks of the Delaware bloom to-day in countless American homes." "As Protestants they shared the religious impulse of the age. They reverenced the bonds of family and the purity of morals. Their children under every disadvantage of want of teachers and Swedish books were well instructed. With the natives they preserved peace."

A little more than two centuries later three hundred Scandinavians settled in Rochester, N. Y. These were the real pioneers of the nineteenth century immigration. Rochester formed their point of departure for the west.

The Scandinavian has a passion for land and it was about this time that the Northwest was opened up, largely by this "great host of peaceful conquerors of prairie and forest." These pioneers shrank from no hardship or peril. They lived in dug-outs until they could provide little homes for themselves. They braved tornadoes and blizzards with a hardihood that proved them countrymen of the fearless Nansen. One writer says: "American history will not mention the names of the courageous pioneers who have done more for its glory than soldiers on the battlefield, but it will not forget their deeds."

Thrift, honesty, frugality, and faithfulness to duty are as pre-eminently Scandinavian virtues as they are Dutch or German. Swedish girls, even raw recruits, are hailed as priceless treasures in domestic service. No nationality is more law-abiding, more averse to violence, or more opposed to visionary schemes. This fact was illustrated significantly during the trial of the Chicago anarchists. No Scandinavian was permitted to act on the jury lest his natural bias toward law and order should render him unsuitable.

Scandinavian patriotism was shown in our Civil War again and again. The 15th Wisconsin regiment, made up entirely of Scandinavians, gathered its bloody laurels on many a battlefield. "I think I shall have to send for my 15th Wisconsin," Gen. Sherman used to say when anything risky had to be done. John Erickson, a Swede, built the first iron-clad man-of-war, and in sending the Monitor to silence the Merrimac revolutionized naval warfare.

Prof. Jansen cites a family in Wisconsin in the early days who lived on a little farm that they took up as a claim from the government. During the first two or three years of their residence in this country they had only six cents in money. The son of these parents is R. B. Anderson, Professor in Albion College, afterwards occupying the chair of Scandinavian language in Wisconsin University, author of many books on Norse literature and of valuable translations from those languages, and a former United States minister to Denmark.

Scandinavians have contributed to the artistic enjoyment of the country as well as to its progress. Jenny Lind with her sweet voice and generous hand will never be forgotten, nor will Ole Bull, the great violinist.

No other class of immigrants has assimilated so readily with American life. The reason is, not that they are more adaptable than others, but that the fundamental traits of their race are more in common with American ideas.

Far outnumbering the Scandinavians, yet like them in some respects, are the Germans.

The Peasant's Revolt, ending in defeat and increased burdens for the poor, the Thirty Years War, local religious persecutions, and the

exactions of military service, all played their part in sending Germans to America. Young men with "the world before them where to choose" came to make their fortunes. Older men, philosophers, scholars, socialists and reformers came to obtain a fair field for the promulgation of their ideas and a wider audience.

We have no time to linger over the little knots of Germans scattered in New Sweden and New Amsterdam, nor over the fact that Gov. John Prinz, of the former colony was a German nobleman; that Peter Minnewit, the first Dutch governor of New York was no Dutchman but a German, as was Jacob Leisler, also famous in New York history. These early comers intermingled with the other inhabitants and soon lost their identity. Even their names have been translated into unrecognizable Americanisms.

In 1785 a shipload of Germans landed in Philadelphia and made a permanent settlement. They were Mennonites, or Quakers, whose influence was strongly felt in the state, and was invariably exerted on the side of law and justice. This colony was composed largely of mechanics who understood farming also, men of the middle class. But their leader, Daniel Pastorius, was said to be the superior in learning of any man then, or for forty years thereafter, on the continent of America.

Ole Bull.

Such was the industry of the Germantown settlers that in spite of untold privations, in one year after their arrival they offered for sale at their store in Philadelphia linen hosiery and cloth which they had manufactured out of flax and wool raised by themselves.

They lived quietly and at peace with all men. The courts often adjourned because there was no business to occupy them. One of the most serious cases was that of a man who threatened a policeman. A few trifling offences of this kind are all that the records of Germantown show for seventeen years.

It is difficult, if not impossible to classify the Germans in this country. They are found in all occupations and in all sections except some parts of the south, which they avoided on account of the unfamiliar crops, hot climate, and slave labor with which they could not compete. The cities of Chicago, Cincinnati and St. Louis are overwhelmingly German, as are the agricultural regions of the Northwest. The timber regions of northern Wisconsin were sought by these hardy, persevering, and energetic people who were willing to wait for success.

"Never since the time of the Puritan Pilgrims has there been an element of immigration containing so large a number of men of education and rank, men who had filled high positions in their native country, men who came to our shores not to seek wealth but to seek liberty, as the German immigrants from 1815 to 1860."

Some of the later comers, those from the south German provinces especially, brought only such elements of culture as inhere in the Protestant faith. Many of these settled in Pennsylvania and the eastern cities. How well rooted were the fundamentals they did bring is shown by the fact that the first German Bible printed in this country appeared forty years before the first one printed in English. Germans have contributed far more than any other people to the musical atmosphere of the country. Without them the grand operas and symphony orchestras of our great cities would be impossible. Without them the open air concerts which are such a delightful feature of the summer time would not be, and our churches and the stage would be bereft of their sweetest singers and best trained musicians.

The very qualities in their character which are most noble are most unobtrusive. The German is proverbially modest and if we hear less of him than of other arrivals from foreign shores it is to his credit rather than otherwise.

It is true that among the Germans in this country there are social democrats and there have been anarchists who have failed to realize the best possibilities from this government of the people; too sudden reaction from undue repression in their own land has created an impetus in the other direction. But as Andrew Dickson White well says: "If Germany has sent us a Most she has trained such Americans as Profs. Ely and Adams to answer him."

The influence of a great body of educated and high-minded Germans in this country has been exercised continuously for order and justice and right. They furnished us such patriots as Steuben and De Kalb and Rosecrans, and have given us Carl Schurz, whose voice has always been raised on the side of good citizenship and national unity. He said in a recent speech:

"Let us never forget that we as Germans are not called upon here to form a separate nationality, but rather to contribute to the American nationality the strongest there is in us, and in place of our weakness to substitute the strength wherein our fellow Americans excel us, and to blend it with our wisdom. We should never forget that in the political life of this republic we as Germans have no peculiar interests, but that the universal well-being is ours also."

We do not ignore the fact that all Germans in the United States are by no means representative of the best class of their countrymen at home. The enormous brewing plants and distilleries owned by Germans in this country have done as much perhaps toward demoralizing our young men as have the saloons run by our Irish citizens, but these evils will sometime be eradicated from our system of government. The spirit of money-making at any cost will not always be first, and then the elements of grandeur in the German character and the elements of rare strength in his mental grasp will have their share in making up the American of the twentieth century.

Mr. Samuel W. Pennypacker in discussing the influence of Germans on this country concludes thus:

"Already the rigidity and angularity which Puritanism has impressed upon this country have begun to disappear; already we feel the results of a broader scope, a sterner purpose, and of more persistent labor. And in the years yet to be America will have greater gifts to offer unto the generations of men, and will be better able to attain that destiny which in the providence of God she is to fulfil, because she has taken unto herself the outpourings of that people which neither the legions of Cæsar, nor papal power, nor the genius of a Bonaparte were able to subdue."

THE CITIZEN MUST SERVE THE STATE.

Equality is the golden thread that runs all through the fabric of our civil institutions—the dominating note in the swelling symphony of liberty. Equality, not of conditions, not of natural endowment, but of rights, is the foundation stone of our governmental structure. And as a corollary, necessary and imperative, to this doctrine of an equality of rights, is the doctrine of a proportionate and rationable contribution to the cost of administering the government. The duty of the state to protect life, liberty and property is conditioned upon a fair contribution to the cost of the government. A full and conscientious discharge of that duty by the citizen is one of the tests of good citizenship. To evade that duty is a moral delinquency, an unpatriotic act.—BENJAMIN HARRISON.

PHYSIOLOGY TOPICS FOR FEBRUARY.

PRIMARY — Face and its parts. The senses; uses, care. The skin. Breathing; ventilation; use of tobacco.

INTERMEDIATE — Drinks containing alcohol. Food. Lungs and other organs of excretion. Cell life and growth.

ADVANCED — Origin and nature of alcoholic drinks. Organs of secretion and excretion.

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THE MORN OF THE SPRING TIME.

'Tis the morn of the spring time, yet never a bird
In the wind-shaken elm or the maple is heard;
For green meadow-grasses wide levels of snow,
And blowing of drifts where the crocus should blow;

Where wind-flower and violet, amber and white,
On south-sloping brooksides should smile in the light,

O'er the cold winter-beds of their late waking roots
The frosty flake eddies, the ice-crystal shoots;

And longing for light, under wind-driven heaps,
Round the boles of the pine-wood the ground-laurel creeps,

Unkissed of the sunshine, unbaptized of showers,
With buds scarcely swelled, which should burst into flowers!

We wait for thy coming, sweet wind of the south!
For the touch of thy light wings, the kiss of thy mouth;

For the yearly evangel thou bearest from God,
Resurrection and life to the graves of the sod.

JOHN GREENLEAF WHITTIER.

SLEEPING BEAUTIES.

"Where are the flowers? Don't you know?
Why Mother Nature long ago
Tucked them up in their cunning beds,
Pulled the blankets over their heads,
And patting them down so snug and nice,
Said: 'Lie there, darlings, as still as mice,
For when Spring comes back with sunny showers
I will waken my pretty flowers.'
So they're all asleep, as fast as can be,
With the snow spread over them, don't you see?"

Burne-Jones.

Spring.

"The spring comes slowly up this way."

SPRING IS COMING.

Spring is coming up the valleys, now the grasses hear her tread,
And the little sleeping rootlets nod each hidden, drowsy head.

Mother Nature's looms are weaving dresses fine of every hue,
For the daffodils the yellow, for the wind-flowers soft, pale blue.

All the pansy scouts are watching for the enemy's retreat;
With the sun and wind against him, how can winter help defeat?

—NINETTE M. LOWATER.

SPRING SONG.

Invisible hands from summer lands
Have plucked the icicles one by one;
And sly little fingers, reached down from the sun,
Lay hold on the tips of the grass in the sands.
And O, and O,
Where is the snow!
The crow is calling,
Showers are falling.

Up, up and out of your garments gray,
Ho! willow and weed, each secret seed;
The music of waters is heard in the mead,
And surly old Winter has hied him away!
And O, and O
Where is the snow!
The snake is crawling,
Showers are falling.

—JOHN VANCE CHENEY.

Flowers o' the Spring . . . daffodils,
That come before the swallow dares, and take
The winds of March with beauty; violets dim,
But sweeter than the lids of Juno's eyes
Or Cytherea's breath.—SHAKSPERE.

SPRING'S HERALDS.

"Shine warmly down, thou sun of noon-time,
On this chill pageant, melt and move
The winter's frozen heart with love.

"And soft and low, thou wind south-blowing,
Breathe through a veil of tenderest haze
Thy prophecy of summer days."

REASONS FOR TEMPERANCE EDUCATION.

WHY should hygiene, including instruction as to the nature and effects of alcoholic drinks and other narcotics, be made a compulsory study in all public schools?

The consideration of this question is especially pertinent now that the issue is facing the present legislatures of several states. Its answer may be stated in a single proposition: First, the knowledge acquired by this study will add to the future health, strength and consequent usefulness of the pupils who pursue it; and second, it will add to the strength of the state which they are soon to govern.

"A very slight knowledge of hygiene would have saved many a soldier in our late war with Spain. Many a man knew better how to take care of his horse than of himself," says an eminent American writer on sanitation.

To teach our children to understand the structure and divisions of the earth, to train them in the laws of mathematics, to teach them how to speak and write good English, and to leave them in ignorance of the laws of health with no information about their own bodies which are the instruments through which they must express themselves, and from which they can never escape while they live, whether those bodies are a source of comfort or misery,—to do this is to omit one of the vital essentials of school instruction; it is a travesty on education.

To have every other desirable thing, and with it all not to have health, is to be able to do and enjoy little or nothing. Such a condition is in reality the deepest poverty. The health of a normally constituted human being depends upon obedience to the laws of hygiene. Instruction as to those laws should not only be one of the first steps in education, but should be continued with the pupils' progressing ability of comprehension through secondary school life.

As the strength of the state depends upon the moral, mental and physical ability of its citizens, and as physical conditions materially influence both the moral and mental nature, the state that fails to require the study of hygiene is failing to provide an essential to its own strength and perpetuity. The state that requires this subject to be taught is thereby providing for one element of its future greatness.

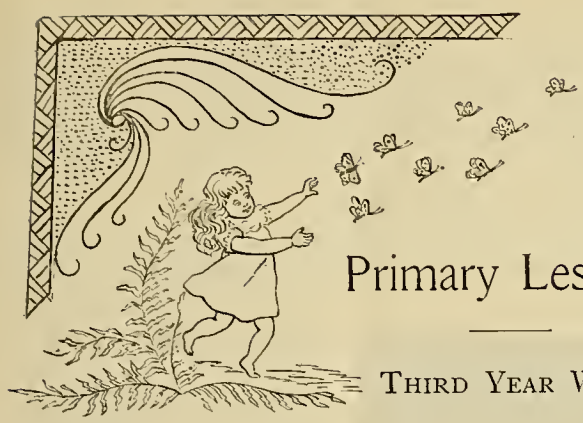
When nation clashes against nation in the supreme hour of war, whatever has been woven into the character of the contending peoples through their schools, becomes national as well as individual destiny. There were many young soldiers in our late war who had learned in school the laws of hygiene, including those which relate to the nature and effects of alcoholic drinks and other narcotics. The event proves that such soldiers had by so much a greater chance of resisting disease, of being able to serve their country while in the service, and of living to come home for future usefulness.

A writer in one of our leading medical journals says: "Alcohol is to-day the greatest power known in the world that is constantly operating to dethrone reason, shatter the physical system, and bring on moral and financial evil."

Popular misapprehension as to the nature and effects of alcoholic drinks has led to their becoming the greatest known power for evil. Because the first step toward the reform of that evil is the correction of this misapprehension, the state should require that, as a part of the study of hygiene, the nature and effects af alcoholic drinks and other narcotics should be taught all pupils in all public schools. This instruction should be so definite and specific that the pupils will know as they meet life's temptations, that a little alcohol as found in the lighter liquors, beer, wine and cider, has the power to create that uncontrollable and destructive appetite for more which causes untold disaster.

The legislature of every state but four in all these United States has made this a compulsory study in the public schools of the state. The states that have had in force longest the most specific laws requiring this study are to-day reaping its benefits in a decrease of intemperance and in an increase of sobriety, in better public health and morals as shown in the ranks of the soldiers sent to the late war, and in the condition of the people at home. Every objection that has ever been brought against this study is disproved by actual experience. The charge that its text-books are scientifically inaccurate has been met and disproved. The results of this study are good and only good, and promise that the day will come not long hence when the power of alcohol for evil will be broken in our beloved country.

It is not reasonable to suppose that the intelligent people in the four states, Virginia, Georgia, Arkansas and Utah will long fail to provide this education for their children, who will otherwise be handicapped in the competitive race of life with their better taught countrymen from other states.



Primary Lesson

THIRD YEAR WORK.

EFFECTS OF TOBACCO ON THE SPECIAL SENSES.

"A WEAK foundation," says Professor Tyler, "will support only a one-story building, and a small one at that." Pyramids are reared on the rocks of ages. So in the development of intellectual greatness. Its foundations must be broad enough and deep enough to support the loftiest superstructure. Nature points the way when she begins the formation of brain and nervous system before that of any other organ. It is for us to follow her lead, and by thorough training of the senses to work with her for that development of the great controlling centres which makes for complete manhood.

To develop sense activity, we surround the child with objects which appeal to eye and ear; we win his interest, attention, sympathy; we teach him to observe and compare; but we are working against heavy odds when he comes to us with brain and senses dulled by tobacco and in process of disintegration, rather than in a state of healthy growth.

The first step towards sense training should be to provide a clear track between brain and the external sense organs over which stimuli and motor impulses may pass quickly and accurately. Each sense should be tested in order that defects may be noted and given proper treatment, then developed to its highest point of efficiency. In many a school the greatest obstacle to sense training lies in the use of tobacco by the pupils. The vigilance long exercised by teachers all over the land toward this insidious foe must not be relaxed, rather must it be supplemented by systematic instruction, for knowledge is the key to the enemy's fortress.

THE LESSON.

Before taking up in class the points brought out in this lesson, the teacher should review all work on the special senses done during the first two school years, making sure that her pupils know what these organs are, something of their uses, and of the ways in which each should be taken care of to insure the best work. Special training should also be given at frequent intervals to quicken each sense and render it alive to impressions. Assuming that such work has been thoroughly done through short easy lessons, the class are now ready to learn how the use of tobacco affects the organs of special sense. The first lesson on this topic should explain how

TOBACCO INJURES THE SENSE ORGANS.

Teacher—"There was a fire last week in the block where I live, and some of the people barely got out of the burning building in time to save their lives. One child was brought out insensible by a fireman, and it was some little time before he came to himself. He was not burned at all. What was the matter?"

Roland—"Perhaps the smoke made him faint."

Teacher—"That was it. The smoke had filled his eyes and nose and throat. It had kept him from breathing pure air which everybody needs, until he fainted quite away. The fireman was just in time to save his life. Aren't you glad?

"The last time I was on a railway train I got into the wrong car. The air was blue with smoke, and although I hurried out as quickly as possible, my eyes and throat smarted for some time. I didn't see any fire. Where do you think the smoke came from?

"You are right. I had got into the smoking car, where nearly every man had his pipe or cigar or cigarette. How many think tobacco smoke is better for people than other kinds of smoke? How many think it is worse? Why?"

If the children are not united in their answers, or are unable to give reasons for what they think, review the facts about tobacco learned in their first and second year's work, or embody these in a story until all remember that

Tobacco contains the poison nicotine.

When tobacco is smoked or chewed some of this poison gets into the body and hurts it.

Teacher—"There are hurtful substances in all kinds of smoke which are bad for our eyes and throat, but tobacco smoke is worst of all because it contains all these and nicotine too; just as you know it hurts us more to burn both hands than to burn one.

"This morning we must find out some of the ways in which tobacco hurts those parts of our bodies which help us to find out about things. Who can tell the names of these parts as I write them on the board?"

When the right names have been given, and written where all can see them, explain very clearly and in simple language how the use of tobacco hurts these delicate organs. In many classes this can be done best by a story.

Eyes that can not See.

"Bedtime, Ethel," said her father. "And it's story night you know, so hurry up."

"Just as soon as I've said good-night to Tick-tock," answered Ethel, flitting across the hall for a last look at the long brass pendulum, swaying solemnly back and forth at the foot of the stairs.

"Good-night, old Tick-tock, wake me up in the morning."

"What time is it?" said her father, when Ethel was cuddled up in his lap for the good-night story. "Your eyes are younger than mine and can see better."

"Can't I see the figures on Tick-tock, when I'm as old as you?" said Ethel, as she told the time.

"I hope so my dear, if you are more careful of your eyes than I've been. Shall I tell you the reason I can't see any better?"

"Oh do," said Ethel.

So father began: "The doctor says it's because I've smoked too many cigars. I'm trying to stop, but it's hard work, and I'm afraid it's too late to make my eyesight as good as it once was."

"Is that what makes your eyes red?" asked Ethel.

"Yes dear, I suppose so. You know how very delicate the eye is. We can't touch it without pain, as we can our arms or feet. Dust or smoke of any kind hurts the eyes too, and tobacco smoke seems to be particularly bad for them."

"It makes my eyes ache when you smoke in the house. I'm glad you aren't going to any more," said Ethel, with a little sigh of relief.

"The doctor told me several things about tobacco that I didn't know before," her father continued. "He said there is a poison in it, that often hurts the nose and throat as well as the eyes, and makes them raw and sore. Perhaps that is why I've had so much trouble with my throat, though I never thought of it before. It's been sore a good deal of the time lately, and my hearing isn't so good as it used to be either.

"The doctor tells me that children are learning all these things in school now. If I'd been taught them when I was a boy, I might have saved my eyes, and my other senses would have done me more good too."

Then it was time for Ethel to go to sleep, so father left her in her little white bed, for old Tick-tock to wake up in the morning.

"Good-night, Old Tick-tock!"

Get from the children the ways brought out in this story in which tobacco hurts the senses, then write them on the board.

Tobacco makes the eyes red and bloodshot.

Tobacco irritates the lining of the throat and nose.

Tobacco often makes the throat sore.

Tobacco Hinders the Work of the Sense Organs.

In showing how the use of tobacco makes the senses dull and stupid, it will be well to begin by reviewing briefly some of the things which each sense ought to do for us.

Let the class go in turn to the window or door, then return and name all the objects they have noticed in this one glance. Then ask each to name some pleasure he enjoys every day because he has eyes and can see with them. Continue this exercise until many such pleasures have been thought of and given, and until every child realizes in some degree how much he owes to his eyes, and what care he should take of them that they may last as long as he lives.

Ask how the use of tobacco affected the eyes of Ethel's father. Has tobacco the power to hurt other people's eyes in the same way? What gives it this power? What pleasures would we have to do without if we should lose our eyesight?

As answers are thought of to this last ques-

tion, each child may write his own on the board. Get as many of these sentences as possible, to illustrate the fact that without our eyes we could get no idea of the color in flowers, birds, insects, the sky or any object in nature.

Talk with the class in a similar way about each of the senses, helping them to name all the pleasures they can which we receive through each when it is well trained and able to do its best work. Then by way of double emphasis, let the children tell what they would have to get along without if they could not hear, or taste, or smell, or feel any object.

When these facts have been brought out as fully as may be, ask the class to think again of the story of Ethel and her father, and be ready to tell what tobacco may do to these delicate parts of our bodies. Write such points on the board as given by the children, making sure that they include these simple facts:

Tobacco hurts the eyesight and may destroy it.

Tobacco sometimes hurts the hearing.

Tobacco may injure the senses of taste and smell.

Tobacco makes all our senses dull and stupid.

"Where'd you come from?"

Tobacco Injures the Person.

When your class have a good idea of the way in which tobacco dulls the different senses, they need to connect with this the injury to the person as a whole, and to all his interests whether of work or play. These points may be presented at first by some story easily understood.

Uncle Mason's Toad.

"Johnnie Eaton was helping the gardener, picking up stones and bits of sticks and carrying them off in his little cart, when an old toad hopped out of the bushes and sat blinking solemnly at him.

"Hullo, old fellow, where'd you come from?" said Johnnie, stopping all operations to look at the intruder.

"Here's a toad, Uncle Mason," he called to the gardener. "Shall I put him out?"

The old man hobbled up. "No, no, my boy, let him be. He catches bugs and flies and helps to keep away the insects that would spoil our plants. See him run out his tongue and snap up that fly? He never fails to get him and the first time trying too. Suppose we sit down on this bank awhile and watch the little fellow, and I'll tell you how a toad made me stop using tobacco."

"Why, Uncle Mason, how could a toad do that?" asked Johnnie with wide open eyes.

"Well, I'll tell you. I used to smoke and chew both, but I've stopped for good now and this is how I came to do it.

"One day I came across something a big doctor had written, that there was enough nicotine in one cigarette to kill two toads. I didn't know what nicotine was, but it set me thinking, and I kept asking around until I found out that it was a poison that's in all kinds of tobacco. That sounded kind o' scary, and I got out my pencil and did a little figuring. A good sized toad weighs about half a pound, and I weigh one hundred and sixty pounds. According to weight it would take just one hundred and sixty cigarettes to kill me, to say nothing of chewing tobacco, and I'd get them smoked up in about a week. When I looked at it that way, I said to myself, says I: 'Mason it's time to quit;' and I did quit then and there.

"Of course I knew there were men that used tobacco and yet lived to be older than I was, and I'd used it a good many years myself and hadn't died yet. But then I thought: 'Mebbe there's toads that it takes more to kill than it does others, and anyhow it isn't safe to take any chances with that sort of thing.

"Then I got to wondering whether a toad that was stuffed half full of tobacco poison would be much use killing flies, and I says:

"'Mason, that's just what's been the matter

with you. When you went to school, you were always at the foot of your class. You weren't quick at seeing things or hearing what was said, and you didn't seem to be more'n half awake any of the time. The boys that didn't smoke could run faster and play better and they were always ahead of you.'

"After I left school it was just the same. The other boys got good places to work and I didn't get much of anything, and when I did I couldn't seem to keep up with the other men. It was tobacco that did it all. Now I've stopped, I can see better and hear better and work better. I've got this good job and I'm doing well at it, and it's all on account of a toad, so you see I'm kind o' fond of the creatures and like to see 'em around."

Uncle Mason hobbled off to work again and Johnnie went too, but he smiled at the toad under the bushes and decided he would never begin the use of tobacco.

Tell the story slowly, then let the children try to give it in their own words. As the different ways in which tobacco hurts people by dulling their senses and thus hindering their chance of success in life are brought out, have these written on the board and read aloud by the class until it is impressed upon their memories that

Tobacco keeps us from learning our lessons quickly.

Tobacco prevents our being quick and active at work or play.

Tobacco keeps us from enjoying life as we should.

Tobacco makes us poor workmen.

Tobacco keeps us out of many good positions.

Tobacco is always a hindrance, never a help.

AUTHORITATIVE QUOTATIONS.

Tobacco Irritates the Sense Organs.

When tobacco is smoked there are developed certain acrid vapors, which have an irritant action on the mouth and throat. The effects of smoking are in part due to irritant matters in the smoke. The habitual smoker usually suffers eventually from what is known to medical men as smoker's sore throat. The inflammation often extends to the larynx, or may spread up the Eustachian tubes and impair the hearing. Cigarettes are especially apt to cause these symptoms. Those who draw the smoke into their lungs often suffer from chronic inflammation of the bronchial tubes in consequence. Cure is impossible unless smoking be given up.—H. Newell Martin, M. D., F. R. S.

Tobacco Weakens the Nerves of Sensation.

The use of tobacco tends to blunt all the senses, and to weaken the action of all the nerves of sensation. The persistent smoking of tobacco often renders a person almost totally incapable of distinguishing flavors. — W. E. Baldwin, M. D.

Tobacco Impairs the Functions of the Senses.

Tobacco frequently causes disturbances of the special senses. Owing to the irritation of the nasal mucous membrane the olfactory sensibility is impaired, and probably owing to the irritation and congestion set up in the nose and throat, together with central nerve disturbance, the hearing is sometimes lowered; but of all the special senses the sight is most seriously affected, and tobacco amaurosis or amblyopia is a not infrequent result of the excessive use of the drug—E. Stuver, M. D., Ph.D.

Tobacco Dulls the Intellect.

The habit of cigarette smoking is increasing even among boys of not more than six years of age. It prevents development mentally, morally and physically.—C. T. Cranfield, M. D.

Tobacco Retards Progress.

At several of our great universities it has been found by exact and scientific investigation that the percentage of winners in intellectual and athletic contests is considerably higher in total abstainers from tobacco.—J. C. Mulhall, M. D.

OUT OF THE HEART OF WINTER.

Out of the heart of winter hear my cry,
O vernal goddess of the violet eyes!
Loosen a little these frost-forged bonds
With hope's warm sunlight, so that I may bear,
Soul-steadfast, the succession of the days
Until thy coming! Would that now thy feet,
Sandaled with green, pressed soft upon the hills,
Would that the low persuasion of thy voice
Were winning back the leaf upon the bough,
And the shy, sweet forerunners of the rose!

Hark! the wind-spirits of the gracious south
Across the solemn snow-leagues bring me word:
"O spring's most constant lover," they entreat,
"Forsake thou not her altars, for the hour
That shall reveal her glory wings apace,
A boon, a blessing, a beatitude."
Thus speak her herald-harbingers, and I,
Who ever am enamored of the spring,
Possess my soul in peace, and wait for her.

Clinton Scollard,
In the February Chautauquan.

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A QUESTION OF MORALS.

THE objection to teaching temperance physiology often heard in some parts of the country is that it is teaching virtue by studying vice. This objection is based on the erroneous assumption that the use of alcoholic beverages and tobacco is entirely a matter of morals. The use of these substances would not be a matter of morals if they did not injure the body, the instrument of the mind. The alcohol question belongs just as much to the domain of physiology as does the subject of sanitation or ventilation.

As well might General Wood have gone into Santiago and attempted to stem the unsanitary conditions and habits of the people there by promulgating the highly moral precept that "cleanliness is next to godliness," as to attempt to stem the narcotic habits of the people by teaching the sin of drunkenness, or the virtue of temperance.

We are living in an age when people ask reasons for their faith. If a habit or custom is wrong it must be shown why it is wrong, and no one can tell why drinking is wrong without telling of the harm it does to the body.

Pictures of vice are out of place in teaching temperance; so are moral homilies, goody-goody talks, and exhortations to be "temperate in all things." What the children need to know, and what they have a right to know, is the harm that alcohol and tobacco do to their bodies, and the relation which the health of their bodies has to their general well being and success in life. To say that reasons have no weight in determining action is unreasonable. It is true however, that habits once fixed are sometimes not amenable to reason, and because of this fact reasons should be given before habits are formed.

If teachers charged with the duty of instructing the young do not know the physiological reasons against the formation of narcotic habits, the sources of information are within their reach and it is their duty to learn the facts. Here is where the question of morals comes in.

BELATED IDEAS.

A RESOLUTION was passed some time ago by a certain state board of health, remonstrating against temperance education in the public schools, "because very young pupils can not understand the principles of so important a study." This recalls the fact that the first steamship that crossed the Atlantic ocean to this country brought over the printed copy of a speech made by an Englishman to prove that a vessel could never be propelled by steam across the Atlantic, because the weight of enough coal to generate the steam for the voyage would sink the ship. Nevertheless for three-quarters of a century, great ocean steamers have vied with each other in reducing the time of voyages which have made all the world neighbors. In view of current history, this resolution seems almost as belated as the Englishman's opinion of the impossibility of ocean steam navigation. For more than ten years in many of the largest Eastern states physiology and hygiene has been taught all pupils in the lower as well as the higher grades of public schools, with excellent results. The friends of this study who are watching its practical working over a broad area testify that where it is well graded and well taught from year to year, its value is great in creating a reverence for the body and an intelligent interest in obeying the laws of health.

In modern manuals this study has been beautifully graded. The lessons first introduced into the lower grades are not intricate, microscopical physiology expressed in the technical terms familiar only to the physician, but consist of a few obvious facts put into simple language the child can comprehend; just as the science of mathematics begins in the primary class with "one stick and one more stick are two sticks," and leads on through all the grades to conic sections and applied mechanics.

These lessons must be given in the lower grades of our public schools if at all to the largest number of the Ameriean people, because sixty per cent. of the pupils in this country never go to school beyond the primary or the fourth year of school life, counting from the lowest primary year. The people of this country have decided that it is important that this sixty per cent.—the majorities of to-morrow—shall know enough about their bodies to enable them to understand the laws of health and to know why they should obey those laws and form right habits. Therefore they have made physiology and hygiene, as revealed by modern science, a compulsory study for all grades of all pupils in all public schools, including more than 16,000,000 children of school age. The work is being done, and only good is resulting.

LEGISLATIVE TESTIMONY.

"A child's hand is on the door-latch of the millennium."

THE question is often asked: "What are the results of teaching hygiene, including the nature and effects of alcoholic drinks and other narcotics, in the public schools?"

The aim of this study is to teach progressively, beginning in very simple language and growing more advanced from primary grade to high school, the laws of health and the reasons for the same,—cleanliness, bathing, ventilation, healthful dress, right habits of eating and drinking, and other facts in hygiene with physiology enough in each grade to make the hygiene intelligible.

The following bits from extended personal observation and experience are mere hints of what is following the present wide dissemination of truth on these important questions.

Not long ago it was my fortune to be in charge of the campaign for a stronger temperance education law in one of our large states. I asked a senator to support the pending bill. He replied: "Oh, I know what that bill means. I 'll tell you how I found out. A guest became suddenly ill and unconscious at my table, and in the confusion some one proposed giving him brandy. My son, a lad of fourteen years, exclaimed: 'No, that isn't the thing to give him; don't you see his face is red? There is too much blood in his head now; the alcohol in the brandy will paralyze the nerves in the walls of his blood-vessels, and send more blood there.' The youngster read the riot act to us about that brandy. When the doctor arrived he said the boy was right, and inquired where he learned those facts. The reply was: 'Oh, it is in my physiology; I learned it at school.' So you see," added the senator, "I know what that bill means."

The friend at my elbow whispered: "He is a brewer." A little apprehensive about his vote I asked: "Were you pleased with your son's knowledge?"

"I would not take five thousand dollars for the evidence that was to me that my boy will never be a drunkard," he replied. "Oh, I'm for the bill; I believe in the law, and it ought to be strong enough to be inforced; I shall vote for it." And turning to my friend he continued: "I've sold out my breweries. My children didn't like it, and my boys said they would never take the business, so I sold them all out."

Another senator in the same legislature said: "I had a few political friends to dinner down in the city the other day. My son is in a preparatory school there, and he and his mother were with us. I noticed the lad turn his glass down. I said nothing at the time, but asked my wife afterwards to inquire about it quietly. The boy replied to her query: 'I learned at school that alcohol hurts the brain. I want to keep up with the fellows and pass my exams, so I don't touch anything of that sort.' That's the kind of instruction I believe in," said the senator; "and I shall stand for this bill to strengthen the law, so that every child in the public schools in our state will get it."

A representative in the lower house of the same legislature said: "A class-mate of mine, Judge ———, who has a family of boys, lately said to me, 'We used to serve beer and wine at our table, but our boys somehow got the notion from their lessons in school that it was not right to drink such things, and my wife and I finally decided we wouldn't do anything our children thought was wrong, so we never serve them any more.' "That," said the representative, "was the clinching argument with me; I believe in making the temperance education law just as strong as we can make it, so that not a child in the public schools in this state shall fail to get this instruction."

These are mere illustrations of what temperance education is doing for the children. It is claimed by many that the friends of this movement in their anxiety for the study, have urged legislation which places too great emphasis on this one branch. Arithmatic and geography do not need such emphasis. The parent wants them for his child. The child even, recognizes his need of that knowledge. But this great factor in the moral welfare of our future nation must be emphasized, or it will be ignored by those who are indifferent or opposed to the teaching. As patriots who love your country, as Christians who love the Lord and long for the coming of his kingdom in human hearts, as parents who would count life cheap if given to protect your loved ones from the peril of these drinks, as teachers who have consecrated your lives to the cause of true education, I conjure you to foster the cause of temperance instruction in our public schools.

MARY H. HUNT.

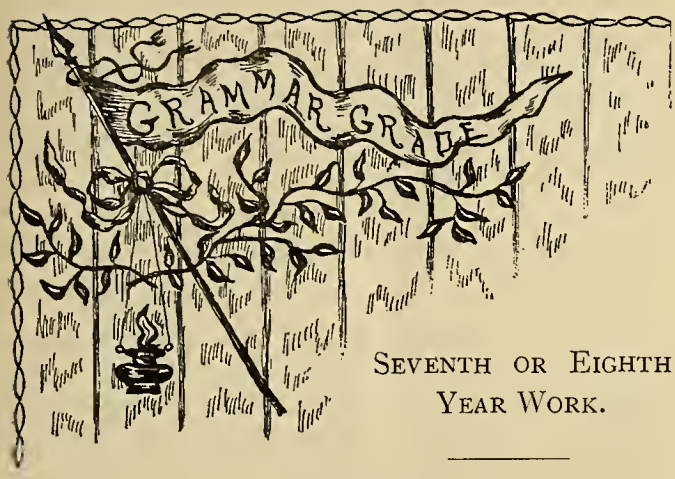
HIS SISTER HAD HER CHOICE.—Mamma: "Bobbie, I notice that your little sister took the smaller apple. Did you let her have her choice, as I told you to?" Bobbie: "Yes; I told her she could have the little one or none, and she chose the little one."

"What immense ears the new neighbor's boy has."

"Yes mamma. He told me what made 'em so big."

"What was it?"

"He said his mamma washed 'em so much they soaked full o' water an' swelled."—[Child Study Monthly.



SEVENTH OR EIGHTH YEAR WORK.

DIGESTION.

THE dyspeptic gourmand of fifty who alternates between the latest delicacy of his well spread table and the physician's office, no less than the victim of ill chosen and badly cooked food, were once pupils in our public schools. We pride ourselves on the changes for the better which have taken place in school curricula since the days of our fathers, but is the time for reforms yet over? Are children now in the schools getting such practical knowledge of foods; their adaptiveness to climate and occupation, the best methods for their preparation, and of the various steps included in the process of digestion, as will insure physical health for themselves and a rich legacy for their descendants? If not, wherein are we better than those who have made mistakes before us?

The laws of nearly every state in the Union require thorough instruction in hygiene, which includes this topic; text-books which give the needed information in full yet simple language are on the market in abundance; it remains for us as teachers and educators to seek more and more the practical application of every necessary rule of hygiene, and to send forth each year pupils better prepared to live simply and wisely.

One of the dangers into which immature students are most likely to fall is that of hasty generalization. For instance, knowing that both proteids and fats are necessary foods, they may conclude that any combination of these substances is admissible, and severely tax their digestive organs by eating meats fried in hot fat or smothered in greasy sauces.

To prevent mistakes of this kind they must know not only what foods are most nutritious and best for the individual from the economic standpoint, but their most digestible combinations. They need also a working knowledge of the process of digestion, including the organs involved, the functions of each, the amount of work which should be required of them, and the proper times for its accomplishment.

THE LESSON.

Make out with your class an outline of this subject, indicating what general points should be taken up in their subsequent study. If they have had practice in work of this kind this can be done almost without assistance; if not, they will need more or less help. Remember however, that a crude outline which represents a subject from the pupil's own standpoint is to him of far greater educational value than the most perfectly developed scheme of mature minds. Begin with the subject as your class understands it, and work upward and outward. When finally completed, an outline on the subject of digestion may cover the following points:

A APPARATUS NEEDED.

1 Organs:
- (a) Mouth — Teeth, Salivary Glands.
- (b) Stomach — Gastric Glands.
- (c) Intestines — pancreas, liver, lacteals, small blood vessels.

2 Structure:
- (a) Of what composed?
- (b) How adapted to the work of digestion?

3 Process:
- (a) Action of different digestive fluids.
- (b) Resulting changes in foods thus acted upon.

B FOOD MATERIAL.

1 Foods needed by the body.
2 Kinds of food to be eaten together.
3 Best methods of food preparation.

C PURPOSE OF DIGESTION.

1 To make good bodily waste.
2 To prepare food for absorption by the blood vessels.

D AIDS TO DIGESTION.

1 Just enough well prepared food to nourish the body.
2 Regular hours for eating.
3 Regular opportunities for rest.
4 Pleasant conversation at meal-times.

E HINDRANCES TO DIGESTION.

1 Unripe, or improperly prepared food.
2 Large quantities of ice-water.
3 Eating at all hours.
4 Too much candy or sweets.
5 Use of tobacco.
6 Use of any kind of alcoholic drink.

"When the stomach strikes," says a well-known professor of biology, "the work of every organ of the body is brought to a standstill.' Thorough study of such topics as indicated in the foregoing outline will tend to prevent such a calamity. Each point should be taken up in class discussion, and fully considered in all its bearings.

Get some boy to explain how an engine is run, and how it can pull a heavy train up steep grades when a passenger coach has no power to move itself. Compare the muscles of the body to such an engine, and ask the class to find out where the needed fuel comes from in this case,

and what prepares it for use. When the importance of the digestive system, as a whole, is thus significantly brought before them, they will be interested to study it more in detail.

Write on the board a list of common foods and ask the class to arrange in groups those belonging to the same class; then to find from their text-books where each is digested, and what fluids are needed to carry on the process.

Young people are seldom troubled with indigestion, except directly after a Thanksgiving dinner; but they should know that it is easier to keep well and to retain a sound digestive apparatus than to struggle with dyspepsia, the arch enemy of American middle life. Special emphasis therefore, should be laid on the last two topics included in the outline.

Compare the digestive organs to some delicate piece of mechanism, such as a violin or telephone, and explain that the finer and more complex in structure any organ is the more easily it gets out of order, and the greater care it needs to keep it running smoothly and capable of doing its best work.

In this connection it should be noted that the hindrances to digestion in general may be included under two main divisions: first, improper or badly prepared food; and second, imperfect action of any of the organs of digestion.

In taking up the latter point, have some pupil explain how bolting one's food hinders its digestion; ask another to tell how large quantities of ice-water affect the process; and a third to show why a stomach-ache often results when one runs or plays violently directly after a hearty meal.

After careful study of the effects of alcohol and tobacco upon the digestive processes, drawn from the text-books for this grade, make a thorough analysis of the statements of well-known physicians on the subject as given at the end of this lesson. Many of the quotations there given embody conclusions based upon actual experiment in the laboratory, and upon the records of an extensive practice. They may be considered thoroughly trustworthy and of vital importance to every student who has regard for his own health.

Assign one or more of these quotations to each pupil and ask him to prepare a list of questions upon the matter thus assigned, which shall bring out every idea found there.

To assist in this work we give an analysis of the first quotation by means of questions.

How does tobacco smoking waste the saliva?

In what ways do the excessive taking of any fluid harm a person?

What reasons are there for the dullness often noticed in smokers?

Why is the inveterate smoker in danger of becoming a confirmed tippler?

Each quotation should be analyzed in a similar way until no point included is left untouched.

All the questions thus prepared may then be taken up in class and answered at once if possible, if not, after further consultation of all authorities available.

AUTHORITATIVE QUOTATIONS.

Smoking Wastes the Salivary Juices.

Tobacco smoking wastes the saliva, causes thirst, and creates a demand for fluids. The palate of the dullest smoker often becomes as thirsty as a sponge, and the inveterate smoker is in danger of becoming a confirmed tippler.— J. Milford Barnett, M.D.

Tobacco Chewing Impairs Salivary Digestion.

Where tobacco or chewing-gum are placed in the mouth and kept there until the time of the meal, the salivary glands are not only unable to secrete enough amyolytic ferment to aid in the digestion of the starch, but are also unable to secrete enough fluid to soften and disintegrate the food thoroughly. As a result the indigestion of all articles of food ensues, since the pabulum when swallowed is not in a fit condition for digestion. — [Dietetic and Hygienic Gazette.

Alcohol Weakens the Stomach.

At last the alcohol enters the stomach. Wherever it touches it causes irritation, then paralysis of the nerves and congestion of the mucous membranes. It mixes with the gastric juice and diminishes its digestive power. At length it comes to pass that the stomach can no longer fulfil its normal functions. It becomes flabby and inert; digestion becomes slow and difficult; the appetite is lost. Soon after, the mucous membrane losing its resisting power corrodes, small ulcers appear, and the condition becomes worse. — Dr. Bienfait, of Liege.

Alcohol Causes Dyspepsia.

The first result of the baneful action of ethyl-alcohol is alcoholic dyspepsia, a very common disorder among persons of both sexes who would be horrified at being classed as narcomaniacs, though that is exactly what they are. — George H. McMichael, M. D.

Alcohol Impairs Digestion of Children.

Further serious disturbances of the digestive organs are found not infrequently among children, consequent upon the use of alcohol; but it is still more common to find slight digestive troubles noticeably increased by giving children alcohol to cure them. — Ad. Frick, M. D., Zürich.

Wines Retard the Digestion of Starch.

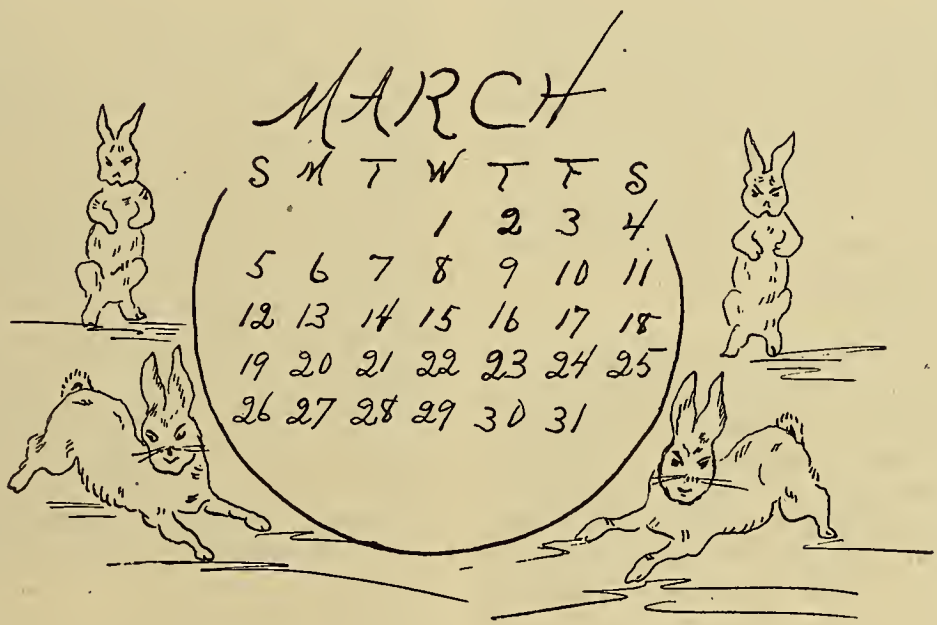
Dr. W. Atchison Robertson found that alcohol, even in solution, retarded salivary digestion of starch. Wines had a very marked inhibitory influence on the digestion of starch by saliva. Even after three hours' digestion in the presence of sherry, port, or claret, the starch had undergone hardly any conversion. — [Dietetic and Hygienic Gazette.

Alcohol Prevents Absorption of Albuminoids.

It is claimed that alcohol aids digestion. On the contrary, it coagulates albuminous matter and thus renders it more difficult of absorption. By its action the sugary materials become with difficulty soluble. It retards or embarrasses digestive fermentation. It provokes nausea, indigestion, and causes the gastric catarrh that troubles all drinkers. — Dr. De Vaucleroy, Professor of Hygiene in the Brussels Military School, Belgium.

Alcohol Neutralizes the Gastric Juices.

It has been demonstrated beyond any doubt that alcohol interferes with normal digestion; that alcohol in any quantity or form taken into the stomach inhibits or neutralizes the gastric juice. — [Journal Am. Med. Assn.



Wines and Beer Retard Gastric Digestion.

Wines in even a small proportion almost paralyze saliva, and thus have a highly inhibitory effect on gastric digestion. Beer and ale act in the same manner, retarding gastric digestion, especially of bread or farinaceous food. — Sir Wm. Roberts.

Alcohol Hardens the Food.

Alcohol instead of softening, has a tendency to harden the food, coagulating the gluten and the albuminoids of the food which renders them more indigestible, besides producing a slight paralysis of the filaments of the pneumogastric nerve in the stomach. — [American Medical Quarterly.

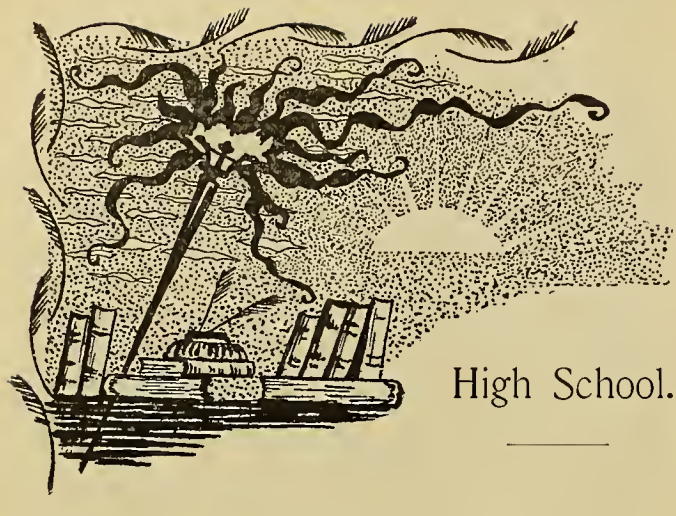
Alcohol is a Foreign Substance in the Stomach.

It has already been shown quite recently, in the American governmental series of experiments with alcohol on that important process — digestion — that with three per cent. of so weak an intoxicant as claret there was marked lessening of digestive activity in every instance. With sherry, a stronger intoxicant, in seventy-nine out of eighty experiments, one per cent. of this liquor sensibly lessened the rate of peptic digestion in the stomach. In short, physiology has no place for alcohol, which when introduced into the healthy organism is manifested as obtrusive and as perturbing as are foreign substances in the bearings of the engines of a steamship. — Norman Kerr, M.D., F.L.S.

Alcohol in any appreciable quantity diminishes the solvent power of the gastric fluid so as to interfere with the process of digestion instead of aiding it.—W. B. Carpenter, M. D.

THE MAKING OF A REAL MAN.

It is better to believe that a man may be better than he seems, than to suspect him of being worse than he is. What he really is we can never fully know; what he seems to be is not, in this life, what he fully is. At best, we do not see more than a fraction of any man. His ideals, his best yearnings, are in large part invisible to the world; his resistance of temptations is carried on in strict privacy, and his noblest triumphs forever hold their own secret. And yet we play a large part in this submerged conduct of our neighbor. His Godward aspirations and resistance power against evil are both strengthened by our believing him to be better than we see him; his liability to fall is increased by our suspicion that he is weaker and worse than he really is. Suspecting a man helps to make him worthy of suspicion; trusting him begets in him trustworthiness; respecting him raises him toward true respectability. — [Sunday School Times.



High School.

PRACTICAL QUESTIONS ANSWERED.

A WELL known institute instructor refers in a recent letter to a quotation from the pen of the late Dr. Quimby, which appeared in the January issue of the JOURNAL, and begs that this may be explained more in detail. The columns of this magazine are always open for fuller information upon any topic of hygiene, and especially those which help to expose the pernicious effects of alcohol and other narcotics upon the different organs and functions of the body. We take pleasure therefore, in presenting further testimony upon the point referred to by our correspondent.

Dr. Quimby's statement that alcohol and tobacco rob the blood of oxygen is fundamental, and upon it rests one of the most potent of all arguments for total abstinence. A city is in great danger when its food supply is poisoned and cut short, and when in addition its sewers are unable to find a free outlet and their contents are forced back into the streets and houses. In even greater danger is the habitual user of alcohol and tobacco, for in the case of man there is but one channel through which every part of his body is supplied with needed food, and through which also must be carried off much of the tissue waste. Since this double function devolves upon the blood, it needs food, not poison, and every possible aid to the performance of its mighty task.

Every high school teacher is urged to bring these facts before her pupils, that they may be rightly instructed upon a matter of such far-reaching importance. Take up first the work of the blood in detail, then its normal requirements of food and oxygen. When these facts have been mastered, the class are ready for the topic elaborated in the quotations which follow. Study these one by one, looking up every unfamiliar term, until the meaning is clear, and every pupil is armed with the weapons of knowledge which shall help him to win victory over these narcotic foes.

HOW DO ALCOHOL AND TOBACCO ROB THE BLOOD OF OXYGEN?

Alcohol and tobacco—twin relics of barbarism—rob the blood of its oxygen, perverting nutrition.—I. N. QUIMBY, M. D.

HOW ALCOHOL ROBS THE BLOOD OF OXYGEN.

From the stomach alcohol passes directly into the circulation, and so in a few minutes is swept through the entire system. If it be present in sufficient amount and strength, its eager desire for water will lead it to absorb moisture from the red corpuscles, causing them to shrink, change their form, harden, and lose some of their ability to carry oxygen; it may even make them adhere in masses, and so hinder their passage through the tiny capillaries.—BENJ. W. RICHARDSON, M. D., LL.D.

Alcohol acts upon the oxygen-carrier, the coloring matter of the red corpuscles, causing it to settle in one part of the globule, or even to leave the corpuscle, and deposit itself in other elements of the blood. Thus the red corpuscle may become colorless, distorted, shrunken, and even entirely broken up.—G. B. HARRIMAN, M. D.

Even so small a quantity as one part of alcohol to five hundred of the blood will materially check the absorption of oxygen in the lungs.

The cells, unable to take up oxygen, retain their carbonic acid gas and so return from the lungs, carrying back to poison the system the refuse matter the body had sought to throw off. Thus the lungs no longer furnish properly oxygenized blood.—J. D. STEELE, Ph.D.

Alcohol lessens the capacity of the blood to absorb oxygen and in this way interferes with the nutrition of the body.—R. S. TRACY, M. D., New York, N. Y.

When any alcohol is present in the circulation its greed for water induces the absorption of moisture from the red globules of the blood, the oxygen-carriers. In consequence they contract and harden, thus becoming unable to absorb as heretofore the oxygen in the lungs. Then in turn the oxidation of the waste matter in the tissues is prevented; thus the corpuscles can not convey carbon dioxid from the capillaries, and this fact means that some portion of refuse material, not being thus changed and eliminated must remain in the blood, rendering it impure and unfit for its proper use in nutrition. Thus step by step, the use of alcoholics impairs the functions of the blood corpuscles, perverts nutrition and slowly poisons the blood. —A. F. BLAISDELL, M. D., Boston, Mass.

Physiology asked on what the poisonous action of alcohol depends. It found that this liquid suspends or destroys the action of all the primary organic elements. This effect is due

to the attraction of alcohol for the water contained in the protoplasm and which is necessary to these elements for the performance of their functions. Why does alcohol have this property when other substances do not possess it? Alcohol penetrates protoplasm with the greatest ease, while this substance can defend itself against most other poisons. — JUSTIN GAULE, M. D., Zürich, Switzerland.

Alcohol uniformly so alters the hemoglobin and corpuscular elements of the blood and tissues as to lessen the reception and internal distribution of oxygen, and thereby diminish all the metabolic changes in the tissues as well as the oxidation and elimination of waste and foreign products. Its habitual presence in the blood, even in quantity no more than would be furnished by from one to three glasses of beer a day, by diminishing the oxidation processes, would be sufficient to diminish the individual's vital resistance to the influence of all other causes of disease. Full proof of this is to be found in the tables of vital statistics as compiled by the Registrar-General of Great Britain; the records of such life insurance companies as have kept the results of their policies to total abstainers and to non-abstainers in separate columns; and from a great variety of other sources, including the important experiments of Prof. Abbot, of Pennsylvania University, and of Dr. Delearde of the Institute Pasteur at Lille, France, demonstrating the marked effect of alcohol in diminishing the vital resistance to microbic infections.—N. S. DAVIS, M.D., LL.D., Chicago, Ill.

Alcohol absorbs water from the red blood corpuscles, causes them to harden and shrink, and thereby lessens their power to take up and carry oxygen.

It hinders and to a certain extent prevents the conversion of passive hemoglobin into active oxyhemoglobin, and in this way lowers the power of the blood to build up the tissues as well as to burn up waste materials.

The blood is the great circulating medium of the body. It not only conveys nutrient material to every tissue and cell of the organism, but at the same time carries away and oxidizes the broken down waste materials caused by cell activity. Everything which interferes with the endosmosis of nutrient materials and the free exosmosis of waste materials lowers the functional activity and health of the body. Right here is one of the most important evil effects of alcohol. By coagulation of the contained albuminous materials it produces thickening and condensation of all these membranous filters and not only starves the tissues by preventing the proper assimilation of nutrient materials but at the same time causes poisoning of the system by interfering with the oxidation and elimination of waste products. — E. STUVER, M. D., Ph.D., Fort Collins, Col.

HOW TOBACCO ROBS THE BLOOD OF OXYGEN.

Nicotine diminishes the power of the blood to take up oxygen and give off carbonic acid, and thereby unfits it for the purpose of nutrition.—GEORGE HARLEY, M. D., F. R. S.

Tobacco increases the fluidity of the blood. It interferes with the development of and causes disintegration of the red blood corpuscles, and as these red blood corpuscles are the active oxygen carrying agents, anything which interferes with their proper development, or causes their premature decay, necessarily robs the blood of just so much oxygen.

Then too, the amount of oxygen contained in the blood is conditioned on the lung capacity of the individual.

Drs. Seaver and Hitchcock have conclusively shown (Popular Science Monthly, March, 1896, page 627,) that tobacco very decidedly lowers lung capacity. Hence, we can say that tobacco robs the blood of oxygen by preventing it from gaining access to that fluid.—E. STUVER, M. D., Ph.D., Fort Collins, Col.

Tobacco impoverishes the blood, and lessens the red corpuscles.—SIR BENJ. WARD RICHARDSON, M. D., F. R. S.

AFTER YOUR BOY.

One of the delegates to a state convention of Christian Endeavorers, a young business man, dressed in a natty rough and ready suit, every movement alert and eager and telling of bottled energy within, came suddenly upon a red-faced citizen who evidently had been patronising the hotel bar. Buttonholing the delegate a trifle unceremoniously, the latter said:

"What are you fellows trying to do down at the meetings? You are hot on temperance, I see by the papers. Do you think you could make a temperance man of me?"

"No," replied the delegate, looking him over from head to foot with a keen glance, "we evidently couldn't do much with you, but we are after your boy."

At this unexpected retort the man dropped his jocular tone, and said seriously: "Well, I guess you have got the right of it there. If somebody had been after me when I was a boy, I should be a better man to-day."—[Temperance Banner.

TOMMY'S FORTUNATE FATHER.—"You children turn up your noses at everything on the table. When I was a boy I was glad to get enough dry bread." "I say, pa, you are having a better time of it now you are living with us!" replied Tommy consolingly.—[Ex.

AMERICAN CIVILIZATION.

VII. Slavic and Italian Influence.

As the present century which marked the birth of the American nation reached its meridian the foreigners who came hither were less and less of the picked class. In the wake of the forty-niners came a great horde from the scum of Europe and Asia, until this country seemed likely to become a gigantic almshouse or reform school, and legislation had to interfere to restrict the influx.

The Teutons and Celts as first comers began to be reinforced by the Lithuanian races of Middle Europe, Russians, Poles, Hungarians, Bohemians, and the Latins from the Mediterranean coast. Paupers, illiterates, contract laborers, and ne'er do-wells, many of them were. As Felix Adler tersely puts it: "America has killed the fatted calf not alone for her own prodigals, but for the prodigals of all nations."

No American passenger can look without solemn apprehension through the port-holes of a great trans-Atlantic liner coming into New York, at the unruly, squalid mass of humanity crowded together on her forward deck; women with shawls over their heads, and pale-faced babies in their arms, and men emphasizing their excited talk with wilder gestures,—"a queer conglomerate mass of heterogeneous elements, ever striving and working, like whiskey and water in one glass, and with like result; final union and a prevailing taint of whiskey." These are to make citizens in a few years, whose votes shall help determine our national policy and our state and federal rulers.

So long as these new comers huddle together in the great cities their future is as hopeless as in the old country, but the agricultural regions of the great West are still beckoning. These sections are as full of promise for them as they have been of fulfilment to the German and the Scandinavian. It has been estimated that the United States could accommodate easily, without crowding, a thousand millions, and yet our great cities are growing rapidly more unwieldy, while there are still vast areas of splendid land untilled beyond the Mississippi. "Perhaps Uncle Sam is not 'rich enough to buy us all a farm,' but he has taken hundreds of thousands of Europe's paupers and set them to work at good wages, and put them on a new plane of existence."

The Russian is rather more than a fair type of all the Slavic races in this country, found chiefly in the great cities, the mining regions of Pennsylvania and Ohio, and in the agricultural sections bordering on the Great Lakes. Swarthy of complexion, with bushy black hair and keen dark eyes, large and muscular, but with somewhat less avoirdupois than his Germanic neighbor, he is fierce or stoical as the case may be, patient, industrious, frugal, and acquainted with hardships. In coming to this country he has sought places where unskilled labor would have a market value, and has often found his way thereby into the tenement house and the sweat shop.

The Bohemians in this country are not largely day laborers like the Italian section hands, but are agriculturalists, traders, or in the industrial working classes. "Their best characteristics are willingness to work, to obey the laws, and to accommodate themselves." "Naturally, the Bohemian loves peace, as he loves music and song. He does not seek war but when attacked he knows better how to die than how to surrender." The largest city colony of Bohemians is in Chicago. In New York, where they are gathered also in immense numbers they work as cigar-makers, in Baltimore as tailors, and in Cleveland as paper-mill hands. "The poor but thrifty Bohemian might well be picked out by the sombre hue of his life as of his philosophy, struggling against heavy odds in the big human bee-hive of the East Side." One who knows them thoroughly said of these same people in New York: "There is not one of them all who, if he were to sell all he was worth to-morrow, would have money enough to buy a house and lot in the country."

For years the poorest foreigners have come faster than the tenement houses could accommodate them or schools provide for their children. But it is an encouraging fact that in many cities a profound awakening has taken place in regard to school matters. "The rescue of the children is the key to the problem of city poverty as presented for our solution to-day; that character may be formed, where to reform it would be a hopeless task."

"The Bohemian has his own cause for the reserve that keeps him a stranger in a strange land after living half his life among us. All the better he knows the value of the privilege that is offered his child, and he will drive him to school with sticks if need be. . . . The result is that the old Bohemian disappears in the first generation born upon our soil. His temper remains to some extent it is true, but as he is thrown more and more into contact with the children of more light-hearted nationalities he grows into that which his father would have long since become had he not got a wrong start—a loyal American, proud of his country, and a useful citizen."

It is a very significant fact that a great proportion of the Bohemians that come to this country Roman Catholics soon abandon that faith and become Protestants. It is said they are "Roman Catholic by birth, infidels by necessity, and Protestants by history and inclination."

The mining regions of Pennsylvania, Ohio and the West are thronged with the immigrants from Middle Europe,—Hungarians, Russians, and Polanders. It is not to be supposed that they were all miners on arrival; they have simply drifted into the places that were open and where others of their own nationality were to be found. It is often urged that they are pushing out better men from these places because they will work for less. A student of the question has replied:

"The Polanders and the Hungarians are not crowding American laborers out of the coal regions, they are crowding them up. Surely we ought to welcome a class of men who are willing to bear the exposure of the mines and to face its dangers and allow Americans to engage in the better class of labor."

Much has been said of the violent tempers and anarchistic tendencies of these people. Most of it is probably true. Their side of the story has seldom been told however. Those who know them only en masse are those chiefly who draw ominous conclusions as to the future of our country as affected by such immigrants. Others who know them individually take a more hopeful view.

Mr. A. A. Halbrook says:

"Many bright-eyed Polish and Hungarian children are to-day reciting their lessons in the public and parochial schools and are crowding native class-mates closely for honors. Some have passed from the schools to fill positions of trust in offices and banks where they are invaluable."

The Italian on the contrary, rises only by compulsion. "He comes in at the bottom, and in the generation that came over the sea he stays there."

To find him in all his pristine squalor and native picturesqueness one has only to seek out the lowest quarter of our great cities, chiefly New York and New Orleans.

The description of this class of population is given in such an inimitable way by Mr. Jacob A. Riis that we quote from him:

"The man is so ignorant that, as one of the sharpers who prey upon him once put it, 'it would be down-right sinful not to take him in.'

"Rarely only can he read his own language. He not only knows no word of English, but he does not know enough to learn.

"His worst offense is that he keeps the stale-beer dive. These vile dens gather about them all the utterly wretched, the hopelessly lost, and out of their misery he makes a profit.

"Like the Chinese the Italian is a born gambler. His soul is in the game from the moment the cards are on the table, and very frequently his knife is in it too before the game is ended.

The Italian Quarter.

"With all his conspicuous faults the swarthy Italian immigrant has his redeeming traits. He is as honest as he is hot-headed. He is gay, light-hearted, and if his fur is not stroked the wrong way as inoffensive as a child. The women are faithful wives and devoted mothers. Their vivid and picturesque costumes lend a tinge of color to the otherwise dull monotony of the slums they inhabit."

But even with so unpromising a start in life as this the boy and girl of such parents emerge from the slums in a way that is little short of miraculous.

"In seventeen years," said a teacher of the oldest Italian ragged school in New York, "I

have seen my boys work up into decent mechanics and useful citizens almost to a man."

"The little ones with their new standards and new ambitions become in a very real sense the missionaries of the slums, whose work of regeneration begins with their parents."

A great army of devoted teachers is trying to instil lessons of patriotism in addition to the English that they want so eagerly for their own and their parents' sake. In one such school at least, every morning sees the flag carried to the principal's desk, and all the little ones, rising at the stroke of the bell, say with one voice:

"'We turn to our flag as the sun-flower turns to the sun!' One bell and every brown right fist is raised to the brow, as in military salute: 'We give our heads!' Another stroke, and the grimy little hands are laid on as many hearts: 'and our hearts!' Then with a shout that can be heard around the corner:—'to our country! One country, one language, one flag!'"

No one can hear it and doubt that the children will not be apt to forget that lesson soon. How well they have learned it, the record of many a private in our recent war has shown.

Even more is done to train them in the actual rights and duties of citizenship. A few years ago Col. Geo. T. Balch, then a member of the New York Board of Education, conceived the idea of instilling patriotism by various school exercises which include this formula, as simple as it is beautiful and solemn:

"This country in which I live and which is my country is called a Republic. In a Republic the people govern. The people who govern are called citizens. I am one of the people and a little citizen.

"The right of a citizen to vote; the right to say what the citizen thinks is best for himself and all the rest of the people; the right to say who shall govern us and make laws for us; is a great privilege, a sacred trust, a very great responsibility, which I must learn to exercise conscientiously, and to the best of my knowledge and ability, as a little citizen of this great American Republic."

The Fresh Air Fund and the Industrial School are other mighty agencies in uplifting these children of the poor, whose only hope of progress lies in daily contact with the newer civilization of their adopted country. Fortunately the poorest and most ignorant immigrant that seeks a welcome on these Western shores is seldom apathetic. The absolutely unresponsive peasant stays in his Old World haunts. The immigrant to America comes, his heart throbbing with a great hope, his eyes gleaming with a fond ambition. He too claims the "inalienable right to life, liberty, and the pursuit of happiness," and obtains it, not only for himself but for his children's children.

We print this month as an extra to the JOURNAL, a few of the many instances continually coming to our knowledge of the individual results of scientific temperance teaching. Thousands probably have never been recorded or even known outside the families in which they occurred. Any reader of the JOURNAL who has personal knowledge of such illustrations of the value of this teaching will confer a favor to the editors and to the cause by sending them to us. The price of this extra is five cents.

Teacher—"Now Bobby, spell 'needle.'"
Bobby—"N-e-i-d-l-e, needle."
"Wrong. There's no 'i' in needle."
"Well, 'tisn't a good needle then."
[Exchange.

POWER OF A GOOD OPINION.—Many a boy is made better because someone believes in him and trusts him. The teacher who sees and notes the good in his pupils has a lever that often lifts them up and makes them better. They can because we think they can.—[Am. Journal of Education.

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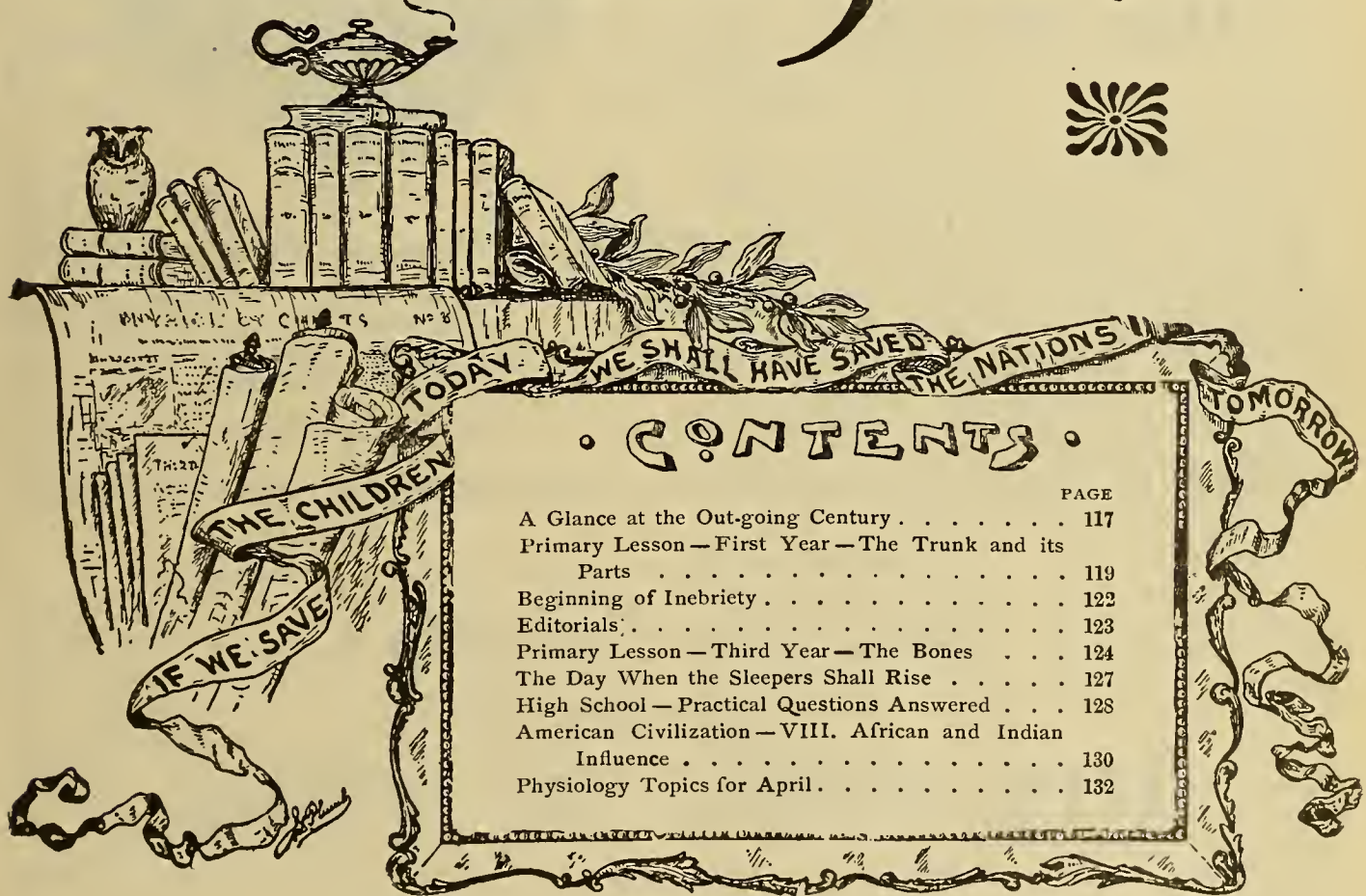

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SPRING.

"Just a tiny, blue-eyed maid
Newly out of Eden strayed;
Lips, a bud rose-tinted, rare,
And the sunlight in her hair—
Here is Spring!"

A GLANCE AT THE OUT-GOING CENTURY.

"When doctors agree who shall venture to differ?"

IN the closing days of the last century the dramatis personæ of medicine were the great physician with his gold-headed cane, the surgeon, also great but of inferior grade to that august person, and the humble apothecary, who would not have ventured to sit down in the presence of these exalted beings.

As time went on these class distinctions became less marked, and now in the year 1899 the physician has lost his cane and his pomp and is only distinguished from his fellow-workers in that he is credited with a more ample knowledge of the matters to which he restricts his attention, while the humble apothecary of early days has given place to the highly accomplished practitioner of medicine and surgery.

The whole world is conscious of changes profound and rapid, and some of them in a quiet way even subversive. Satirists have described our fin de siècle degeneracies; but fortunately, degeneracies like disease itself are mere passing evils. In the long run change makes for good.

Were I asked to name those changes which are most momentous, my answer would be—the control of disease, and the emancipation of women; the one affecting the entire human race, the other one-half of mankind directly and the other half indirectly.

Between the disappearance of the spinning wheel and the opening up of higher work for women, there is a mysterious interruption in the record of their occupation, and one begins to wonder what became of the energy which for that interval of years is imperfectly accounted for, and how so little mischief to health seems to have arisen from it.

A great change has now set in, and higher education is extended to all classes. The secret of the wealth of France is that nearly every man and woman contributes to production. In all sciences the domain of fine and patient observations seems to be specially indicated for women, and in literature, in place of the aimless reading of novels, a tempting field is now vacant. By the accession of women a need has been supplied, and a vacancy filled in lines of work for which neither aptitude nor opportunity fit the medical man.

A providential coincidence in this development may be traced at a time when the responsibilities of civilizing new worlds are suddenly cast upon us. Civilization in its commercial aspect is now carried on at racing speed by steam and electricity. True civilization of human beings themselves could be carried out with like rapidity only by the influence and example of women. How different this scheme of civilization from former methods which relied upon ardent spirits and the rifle as their chief weapons.

Within our own boundaries however, plenty of scope may be found for a majority of workers. The same civilizing influence has to be carried into the heart of our cities and into the homes of the people. This is the kind of work which would throw usefulness and interest into thousands of lives imperfectly satisfied by the mere vanities of the hour, and if organized could achieve incalculable good.

The other great field about which my remarks will center is the increasing limitation of disease. The origin of this improvement is not far to seek. It is to be found in our improved knowledge of the causes and of the na-

tural history of disease, and in the system of repression based upon it.

The notion of the parasitic origin of disease dates back to a remote antiquity, but the full proof of its correctness has been delayed until the present day, and with it the idea that their spread can be controlled and even arrested. The mysterious cropping up of epidemics led support to the theory of spontaneous generation, which even within our own time was a burning question until all doubts were finally set at rest by Pasteur. We are now aware that the cause of every infective disease is a living thing, capable of being destroyed in its nidus if only we know how.

The progressive diminution in the prevalence of some of our most fatal diseases is the reward of a long and systematic siege planned in each detail by scientific knowledge. Without bacteriology, that most specialized of all our branches of study, none of our latest discoveries could have been made. It has been our privilege to live within the day of Pasteur, Lister, Virchow, Koch, and many others to whom humanity is immediately indebted for our present immunities, and to whom first was given the power to make and unmake disease.

To hygiene inspired by bacteriology are due most of our practical measures of prevention. The suppression of many dread diseases, and the improved health and strength of the rising generation,—all this has been the direct fruit of a faithful application of its principles, and these results must raise the subject of public health to the highest place in the service of the state and in the opinion of the profession.

But although in the distant future we may live healthier lives and die from old age, some diseases must remain always while we have the wear and tear of life with its thousand risks, unevenly apportioned labor, and most of all, human perversity in turning food and drink into poison.

Although the attitude of the Eastern tribes in face of Kismet never existed among us too much has heretofore been left to chance. Nowadays we are approaching more closely to the type of that thoughtfulness for possible evils which prevails in trans-atlantic England, and the wise doctrine is gaining ground that advice should be sought before harm has accrued.

The desire of prevention renders the modern physician indispensable. A wholesome dread, in some cases almost amounting to a panic, has seized upon the educated classes. As a result of this apprehension the medical man's advice is anxiously expected at a stage when formerly homely remedies were thought to be sufficient, and the physician himself is often welcomed to conjure away the mere ghost of disease.

The medical supervision of education is an important question. Where so many children are congregated, and where parents are deprived of all means of selecting their associates, a serious onus is incurred by the state, and nothing short of the greatest care can cover its responsibilities.

The fatal transmission of scarlet fever and of diphtheria is the worst evil, and the question arises whether everything has been done which might have been done to prevent their spread. Are all children who are allowed to return to their schools after an attack of diphtheria sufficiently disinfected? The nasal cavities, which are nearest to the seat of affection and in themselves often affected by the disease, are too often forgotten as a persistent nidus.

There is another evil, less serious in the eyes of the lay observer, yet fraught with danger to health and even life. It is since the children of the poorest have found their way into the public schools in the company of children of cleanly and respectable artisans that vermin have invaded homes carefully kept, and the health, or even the life, of many a delicate child has been sacrificed. All this is preventable by insisting that the hair of all children under a certain age attending school shall be kept short. To the unthinking this may appear an unpardonable interference with the liberty of the subject, but I need not point out where really lie the crying injustice and the loss of freedom. In matters of bodily health, and in connection with the danger of infection, a great deal remains to be done which ought to be regarded as of urgent necessity.

Certificates of sound health and of freedom from contagious diseases, and in particular from any tuberculous taint, will be more and more in request as the public becomes more educated in matters of hygiene and more sensitive as to the risks of the dissemination of phthisis.

The medical attendant is afforded an opportunity for warning, and by his attention not only to the arrest and prevention of disease, but to the improvement of the life and efficiency of the growing generations, he does yeoman's service to the individual and to the state.—WILLIAM EWART, M.D., F.R.C.P.

Condensed from London Lancet.

APRIL.

"April with its sun and showers,
Verdant fields and fragrant flowers;
Blossoms of almond trees,
April's gift to April's bees;
Birthday ornament of spring,
Flora's fairest daughterling—
Coming when no flowerets dare
Trust the cruel outer air;
With a bee in every bell,
Almond bloom, we greet thee well."

Primary Lesson

FIRST YEAR WORK.

THE TRUNK AND ITS PARTS.

"WHY man, you don't expect somebody to be converted every time you preach a sermon, do you?" said Spurgeon to a discouraged young student.

"No, of course I don't expect that."

"Well, you won't get it then," was the great preacher's unexpected retort. "Look for results and you will find them."

The average physiology teacher would probably confess to a similar lack of faith regarding the outcome of her own efforts. She gives each year the number of lessons required by law, but she does not really expect the rules of hygiene to be observed by the individual pupil, and her apprehensions are usually realized.

It matters much in the success of an undertaking, that one is conscious of its imperative need, and of the efficacy of the methods to be used in its accomplishment. The student who is familiar with the simultaneous advancement in knowledge of the laws of health and in their observance, during the last quarter of a century, knows that these results are in the nature of cause and effect and not merely coincident. When teachers everywhere have come to the same conclusion, enthusiasm will take the place of half-hearted effort, and pupils will go out into life equipped physically as well as mentally to acquit themselves like men.

No child in regular attendance at school is too young to understand and appreciate simple facts in hygiene. He must be taught how to eat, sleep, exercise and dress properly before bad habits are formed, and the sooner he is shown how to put right rules of living into practice for himself the better chance awaits him of developing into stalwart manliness.

Lessons on the Trunk and its parts may be given to pupils in their first school year. These should follow a general lesson on the body as a whole, and special lessons on the head, face and upper limbs.

THE UPPER PARTS OF THE TRUNK.

Teacher—"How many can think of a part of the body which we have talked about before? Each may name the part he is thinking of; what parts have we not studied yet? What do we call the middle part of our bodies?"

When the right name is given call upon different ones to name something else which has a trunk, until the class know that trees have trunks and all four-footed animals as well.

Teacher—"To-day we are to learn all we can about this part of the body. Guy, will you stand before the class and help me? You may put your hands on your head. Now put them on the part just below. What is the name of that part?"

Children—"The neck."

Teacher—"Clasp your fingers about your own necks. Tell me one reason why we need to have necks."

Kate—"They fasten the head and trunk together."

Teacher—"What is the shape of the neck? It is like one of the blocks we draw."

When some one notices that it is like the cylinder in shape, give each child a pencil and paper and ask him to draw a neck.

Teacher—"Who can find another part of the body shaped something like a cylinder?

"Yes, the arm, the leg, the trunk. Who can draw the trunk and join it to the neck?

"Every one may rise and place his hands on the upper part of his trunk just below the neck. This upper part is called the chest. How many know what the chest is for?"

Helen—"We have a chest in our attic. My mother keeps pieces of cloth in it."

Teacher—"The chests in our bodies are made to hold something too. Put your hands on the upper part of the chest. Now take a long breath. What do you feel?"

Albert—"I feel something swell out."

Teacher—"What you feel is the lungs. They are what we breathe with. Put your hands now on your left sides. What do you feel there?"

Bessie—"I feel my heart beat. It ticks just like a watch."

Teacher—"Bessie is right. We all can feel our hearts beat. They never stop so long as we live, and they keep all the rest of our bodies going."

George—"Just like the big engine in the mill? That keeps the rest of the machinery going."

Teacher—"Yes, the heart is sometimes called an engine for that very reason. Sometimes too, it is called a pump. The chest holds not only the lungs and heart but other organs that work for us and keep us alive. You see what an important part of the trunk it is. Tell me again what the chest is for, as I write it on the board."

The chest holds the lungs and heart, the parts of the body that keep us alive.

"Find the part of your bodies opposite the chest. George, feel Guy's back and tell me about it."

George—"It feels hard. There are bones in the middle and some near the top. It isn't soft and fat like our chests."

Teacher—"The row of bones we feel in the middle of the back is called the spine. Why do we need a spine? Tell me something alive which does not have a backbone. Which can stand up better, boys and girls with good straight spines, or a caterpillar which has none?

Teacher—"Show me the place where the arm is joined to the trunk. What do we call this?"

Class—"That is the shoulder."

Teacher—"Point to the right shoulder, the left shoulder. In what ways can you move your shoulders?"

Class—"I can hump mine up—so."

"I can put mine down."

"I can move mine up and down, and forward and back."

Teacher—"Point to your right side, the left side. Who can tell me the parts of the trunk as quickly as I write them? Each of you may name one part."

The parts of the trunk are the chest, back, right shoulder, left shoulder, right side, left side.

"We send up the lark of our music that cuts
Untired through the cloud."

The Care of the Trunk.

Teacher—"The other day I saw a poor little boy who walked all bent over. He had a great hump on his back."

Esther—"I think he was sick or perhaps he had hurt his back."

Teacher—"Both were true. When he was a little baby his mother let him roll off the bed. He fell on the floor against a rocking chair and lay there crying a long time."

Rose—"Oh, Miss Ames, why didn't his mother pick him up? Was she asleep?"

Teacher—"Yes, but something had put her to sleep when she ought to have been awake. She had been drinking. Now poor little Tim must suffer all his life from the fall. We must be very careful not to hurt the back, it is such a delicate part of the body.

"When you boys were playing the other day I saw George hit Roger on the back with a big stick. It was only in fun I know, but it was not safe. Let me write this on the board:

It is not safe to strike the back.

Teacher—"How many of you boys want to be humpbacked? I notice that some of you lean over on your wheels so far that your backs are all humped up. This squeezes your chests all up and gives the parts inside no room to do their work. If you keep on riding that way by and by you will not be able to sit and stand erect when you want to.

"What do we mean when we say any one is round-shouldered? Let me show you.

"Does that look well?

"How does my back look? Do you see how it is curved over instead of being perfectly straight?

"Chest high, chin down, and shoulders back. That is the way God's children are meant to stand."

Margery's Waist.

Margery was rather a fat little girl and was ashamed to be so large, I am sorry to say. She wanted all her clothes made very tight to give her a slimmer figure.

One day when her mother was very busy she said: "Margery, start for school early to-day and stop at Miss Lake's. She will fit a new waist to you."

When Margery was ready to try on the new waist a great temptation came to her. She would try one a size smaller than usual.

"I think this is too large," she said to Miss Lake as she tried on the first one.

"It is your usual size," Miss Lake told her.

"I'd like to try another size," said foolish Margery; so Miss Lake brought out a smaller waist.

"This is just right," said Margery. "Please button my dress or I'll be late to school."

"I'm afraid your mother will not like it," Miss Lake objected.

"Oh yes she will," and Margery ran away to school, feeling very proud—and very uncomfortable. Somehow she could not study that morning. Her new waist grew tighter and tighter and all she could think about was how it pinched and hurt her.

When noon came she ran home crying, "Take it off! take it off! my new waist hurts!"

Margery's mother unbuttoned her dress and began to unfasten the new waist.

"Why Margery," she said, "this waist is too small. How did Miss Lake happen to give it to you?"

"I made her," said Margery honestly. "I wanted to look small."

"You silly little girl," said her mother, "but I'll not scold you for I think you have been punished enough."

"Oh, I have, I could hardly breathe. I couldn't study, and at recess I couldn't play. I'm so glad to have on my old waist again."

Teacher—"What did the tight waist do to Margery's chest? How must we take care of the trunk?"

Get from the children all the facts previously developed, then write these down to be remembered.

The shoulders must be kept down and back. We must not stoop over when we stand or walk, or ride the bicycle.

We must wear loose clothing and not squeeze the chest.

In standing and walking we must hold the chest high.

The back must be guarded from blows.

The Lower Parts of the Trunk.

Teacher—"Place your hands on your trunk just below the chest. This part is the waist. Try to see how far you can bend at the waist. Keep the knees perfectly straight and try to touch the floor with your fingers. How must we dress to give the waist plenty of room to grow?

"The soft fleshy part of the trunk just below the waist is the abdomen. You may repeat the word after me and I will write it here where we can see how it looks.

"Put your hands on your sides just below the waist. What do you find? Who knows the name of these bones?

"The sweet slow inbreak of angels whitening thro' the dim,
The day's at hand! God lives, and lifts his glorious mornings up
Before the eyes of men awake at last!"

"Maud is right. They are our hip bones. Point to your right hip, the left.

"Which parts hold the trunk upright and keep it in place? These parts need to be very strong to do all this work.

"These are all the parts of the trunk we shall learn about to-day. Who can name every one we have been talking about?"

As these are repeated by the children write them on the board:

The parts of the trunk are the chest, back, sides, waist, abdomen, hips.

Teacher—"How can we take care of the trunk and all its parts?"

Get as many statements on this point from the children as they can give, then question and help until they know that

The trunk needs to be bathed often to keep it clean.

We must wear loose clothing to give every part room to grow.

This part of our body needs plenty of exercise.

If we want tall, straight bodies we must never use tobacco.

AUTHORITATIVE QUOTATIONS.

Alcohol Arrests Growth.

The stunted growth frequently met with, the increasing number of weak, sickly children arrested alike in their moral and their physical development, and the increase of crime,—all these are to be laid at the door of alcoholism. —[Bulletin of the American Medical Association.

Alcohol Injures the Bodily Structure.

Alcohol in time depraves nearly every tissue of the body and induces morbid conditions that are for the most part characteristic. At once narcotic and irritant, whatever it comes in contact with of vital structure is affected disastrously.—H. S. Drayton, M.D.

Alcohol and Tobacco Hinder Development.

Even the moderate use of alcoholic liquors and tobacco retards both physical and mental development during youth to such a degree that both should be entirely abstained from until full maturity is reached. But if these narcotics are capable of so impairing these processes during growth as to render such growth incomplete, will they not as certainly impair the same processes in both middle and old age, and thereby make the nutrition necessary for tissue repair less perfect, and thereby encourage tissue degeneration and early failure of life? Is not the last question answered affirmatively by the vital statistics of every civilized country as well as corroborated by the results of life insurance, and by daily observation in all classes of human society?—N. S. Davis, M.D., LL.D.

Narcotics do not Build up the Body.

The physiologist finds no difficulty in ascertaining the average daily waste of the various structures of the living body, and the amount and kind of food required to replace or repair the same. But he has never found either alcohol or tobacco as a natural ingredient in any of the products of natural tissue disintegration, and consequently he can get no indication from this source in favor of their use.—[Bulletin of the American Medical Association.

BEGINNING OF INEBRIETY.

"Mamma, why can't I have a glass of wine?" This was the question asked by a bright-eyed four-year-old youngster in one of the restaurants of Chicago not long since. My heart seemed to stand still waiting for what answer the mother would make.

The parents were apparently well-to-do, intelligent people, who had ordered beer for the father and wine for the mother upon taking their seats for luncheon. The lady sweetened the wine to suit her taste and placed the glass in front of the child, who sipped several teaspoonfuls, when the father remarked: "That is sufficient. That will give the little man an appetite for his luncheon." But the boy was not satisfied, and gave the mother no peace until she had given him more, until at least a dozen teaspoonfuls had been taken, and when finally he was refused more, he asked why he could not have a bottleful like papa. By this time the face, which had been sweet and rosy when he came in, was flushed and feverish, and the eyes which shone with innocent brightness when I first looked into them, were now dull and heavy.

The importance of educating mothers on the dangers and possibility of child inebriety was never more forcibly impressed upon me than by this incident. The thoughtlessness or ignorance of these parents was almost beyond conception, and the conviction that this young mother was sowing seed which would mature into a harvest of debauchery for her son and lifelong sorrow for herself, made the noonday hour one of feverish dread for the future of the boy, and regret that we seem so powerless to reach such a large majority of the women who are and will be the mothers of the coming generation.—H. S. Drayton, M.D., in The Quarterly Journal of Inebriety.

Doctor (to Gilbert, aged four) — "Put your tongue out, dear."

Little Gilbert protruded the top of his tongue.

Doctor—"No, no ; put it right out."

The little fellow shook his head weakly and the tears gathered in his eyes. "I can't, doctor, it's fastened on to me."—[Exchange.

The little one had behaved badly and a spanking had been the result. Now her vociferous expostulations had ceased. Only a throb and a sob showed now and then that her tempest-tossed little soul had not regained its full composure. But the sky was clearing rapidly.

"Well," asked the mother in a conciliatory tone, "Does it hurt much?"

"Oh, no ;" quoth the tiny little maiden, "it's only nice and warm now."—[Truth.

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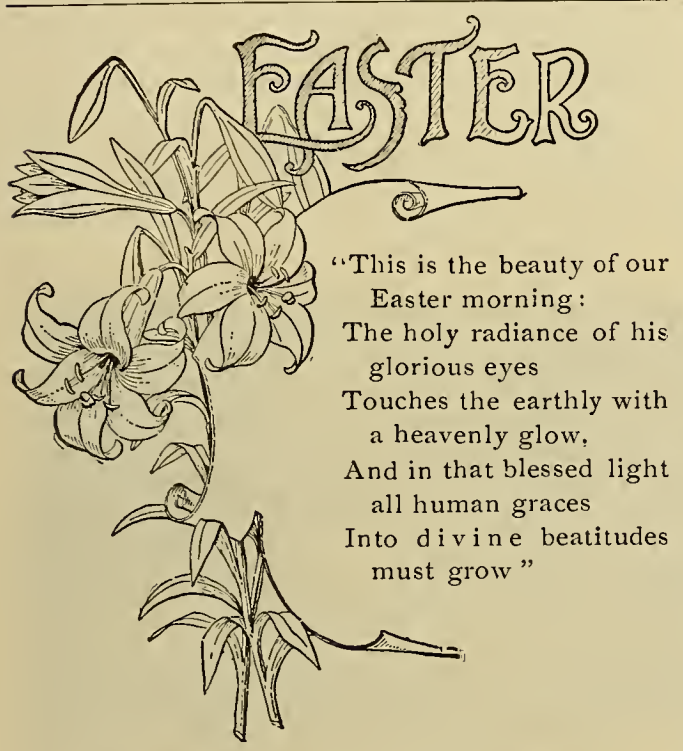


THE USE OF TEXT BOOKS.

THE proper use of the printed page is the greatest of all arts taught in the school. How to get out of printed words and sentences the original thought and observation recorded there; how to verify these and go critically over the steps of the author's mind is the method of discovery and leads to the only real progress. For real progress comes from availing one's self of the wisdom of the race and using it as an instrument of new discovery. That other method sometimes commended, of original investigation without aid from books, forgets that mankind have toiled for long thousands of years to construct a ladder of achievement and that civilization is on the highest round of this ladder. It has invented school education in order that its youth may climb quickly to the top on the rounds which have been added one by one slowly in the lapse of ages. The youth shall profit vicariously by the thought and experience of those who have gone before. . . . The merely oral method does not possess in it the capability of producing the independent scholar.—WM. T. HARRIS, United States Commissioner of Education.

THE ARBITER OF DESTINY.

LORD WOLSELEY recently said: "The most pressing enemy the United Kingdom has yet to encounter is drink. It kills more than our newest weapons of warfare, destroying body, mind and soul."

Our young republic as it takes its place among the great world powers faces no foe that equals this menace from alcoholic drinks. Such a government has no authority to compel majorities, because the will of these majorities is its ultimate source of power. Therefore, only by educating the sovereign people on this subject can a republic hope to grapple successfully with an evil like the drink problem.

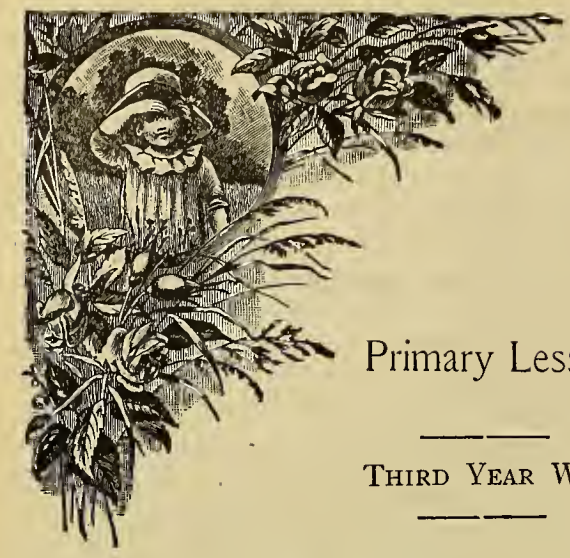
The church, the platform, the press and the Christian home may do much, but the one state institution that reaches all the people more nearly than any other, and at the most plastic and hopeful period of life, is the public school.

The teacher's constant excuse, and a justifiable one too, for not teaching temperance physiology, has been, "I try, but I have not the time." It is the duty of the school committee to provide time and place in the course of study for this subject, and to supply needed text books for its pursuit. Where this has been done teachers are uniformly ready and willing to do their part.

So to educate the rising generation that they can intelligently earn their own living in worthy avocations and thus be contributors to the public good instead of being public burdens, is one object of the public schools. The pupil who has learned to let alcohol and tobacco alone, and in other things so to take care of his body that he is endowed with vigorous health, is to that degree splendidly equipped for success in the battle of life.

"At no distant day," says Prof. Fick, "the English-speaking people are sure to throw off the bondage of alcohol. Then may other nations of the earth who are still the victims of the alcohol curse well consider whether they will be able to compete with these abstainers." An English scholar and historian says: "An important factor in the future of the world is that it is the probable destiny of the United States at no distant time to become the leading section of the English-speaking world; nay, not only that, but to become the leading world-power of the next century."

The relation of the abolition of the alcohol habit to this high destiny, and the consequent mission of the teacher, are not difficult to see. True Americans do not desire that this country shall become a subduing, conquering nation, but a civilizing, Christianizing force that shall lead the human race up to its highest possibilities.



Primary Lesson.

Third Year Work.

THE BONES.

EDISON says he never uses intoxicating liquors because he has a better use for his head. Every young person has a double reason for keeping himself free from the taint of alcohol and tobacco. He needs not only all the brains he has, but a fine, strong body alert to do his bidding, and these narcotic poisons dull the mental powers and stunt the growth of body and mind.

The trained athlete is in demand for all sports requiring dexterity and skill, and to win renown in these he thinks it well worth his while to eat simple food, to give his nerves and muscles just the amount of rest and exercise needed to insure their healthiest condition, and to abstain entirely from tea, coffee, tobacco, and any form of alcoholic liquor.

The trained worker, the person who can think clearly and truly and carry out his thoughts, is also in demand. It is worth while to train for work as well as play. The right kind of men and women are needed more than football players, or experts at tennis, and the material of which they are to be made is in the public schools of the land. It lies with us as teachers to shape it for noble ends.

The Lesson.

Pupils in the third year of school life are old enough to understand how the body is supported and held in place, as well as some of the ways in which firm, strong limbs and a graceful carriage may be secured.

Before giving a lesson on the framework of the body, have ready as large a picture of the skeleton as possible, several small bones from the market washed perfectly clean, the backbone of a small fish, and an oyster with its shell.

Teacher—"How many in the room have seen a tiny baby? Could it sit or stand or walk? Why not? It is alive, and has legs and feet just as we have. What is it that holds our bodies upright when we sit or move about?"

Ask those children who have ever seen a bone to raise their hands; then let them describe how bone looks, how it feels. Suggest that each feel the bones in his own arm, in his wrist, hand, fingers or head, and then try to draw one or more of these bones. When the class have done as well as they can at this work, show them the large chart of the skeleton, and let each one find for himself how nearly correct he has made his drawing.

Teacher—"All our bones taken together make up the skeleton. Our skeletons are inside our bodies, and so they are in cats, and horses, and dogs, and most other animals, but not in every living thing. Who can think of something alive which has its skeleton on the outside?"

Give the class time enough to think out answers for themselves, then have ready to show them such familiar examples as a snail, mud-turtle, oyster or clam.

Ask why it is better to have one's skeleton on the inside of the body rather than on the outside.

Teacher—"Look at this picture of the skeleton, and think what our bodies would be like if we had no bones at all."

Ralph—"We couldn't stand up any more than a jelly fish. I saw one at the sea-shore last summer, and it was all soft and squashy when I touched it. I'm glad I've got some bones."

Teacher—"You have seen the new house going up in the next block. What did the carpenters erect first upon the foundation?"

Tom—"They put up the frame first to fasten the rest of the house to. Is that what our bones are for?"

Teacher—"Yes, bones are the framework of our bodies. Many of our muscles are fastened to them, and these move the different parts.

"Look at the oyster I have here, and think of the jelly fish Ralph saw last summer. Then tell me another use for our bones."

Sarah—"They help to keep the shape of the body."

Teacher—"What does a snail do when you pick it up? What would become of the snail and the oyster if they had no shells to protect themselves?"

Clara—"They would get hurt. Some large creatures would eat them up."

Teacher—"That is another reason why snails and clams and oysters have shells, and why we have bones. It is because these protect the soft parts and keep them from harm.

"Place your hands on your sides and feel the bones there. What do we call them? What do they protect? What is the use of the bones of the head?

"Look at the bones below the knee on this

chart, and compare them with those above the knee. What are the differences?"

Class—"There is only one bone above the knee, and there are two below.

"The bone above the knee is longer and larger than those below."

Teacher—"Do you see the same thing anywhere else?"

Marion—"It's just the same in the arms."

Bring out the reasons for these differences by asking which part of the leg is moved more frequently, that above the knee or below. Which part of the arm is more in use, the upper part or the lower? When we want strength merely, as in the upper parts of the leg and arm, do we find large or small bones? When skill and great variety of motions are needed, as in the lower arm and leg, and still more in the foot and hand, what kind of bones is to be found?

Bones protect the brain and chest and other delicate parts.

Bones hold our bodies together and help to make them strong.

Without our bones we could not move about or do what we wish.

Large bones are for strength; many small bones working together are for skill.

Have the class notice the human spine as shown on the chart. Then show the backbone of a small fish and let them examine this closely. When they notice that it is composed of a number of small bones strung on an elastic cord, get their own opinions as far as you can as to the reason for this.

Bring into class a small stick about the same length and size as the backbone and ask some boy or girl to try to bend it. Then have all rise and bend their bodies forward and backward, and notice the greater ease with which the spine can be moved because it is not made in one straight, stiff piece.

"White-clad children by degrees steal out in troops among the trees,—
Fair little children morning bright, with faces grave yet soft to sight."

A lesson on the manifold uses of the hand and the marvelous skill of which it is capable may well be introduced at this point, and the thought suggested that the training of hand and brain must always go together.

Ask each child to name an animal that can run very fast, or is specially quick in his movements; then one that is strong and powerful. Let them next tell all they can about the differences between the bones of these animals. Which have long slender bones? Which have bones that are thick and stout?

Send one after another in the class to the chart to point out as many bones of different shapes as they can find? Explain the reasons for the different shapes and sizes until these are thoroughly understood. In review, call for all the uses of the bones which have been brought out thus far, and have these written on the board.

We need bones to give shape to the body.

Proper Care of the Bones.

Review with the children all points about position learned during the first and second school years.

Ask why a baby does not walk at once. What will make his bones strong enough to support his body? Show one difference between the bones of a child and those of an old person, by bringing into class a bone which has lain in acid for several days, or until it is soft enough to bend easily at the touch, and another which has been in a clear fire until all the soft parts have been burned away.

Let the children find by handling both that the soft bone will take any position, while the other instead of bending is brittle and easily snapped in pieces.

Ask why it is worse for a child to sit or stand badly than for an older person. Then let different ones explain with your help why one shoulder will grow higher than the other if a child always carries everything in the same hand; why sitting bent over at study will cause rounded shoulders; why standing crookedly will by and by twist the spine; why children should not do the same thing long at a time; why it is easy for a child to correct these faults and almost impossible for an old person to do so.

See if any one can tell what causes bow legs. If not, explain that this deformity comes either from allowing a little child to stand or walk before his legs are strong enough to support his weight, or else because he has not been given the right kind of food—food that will build up the hard part of bones and strengthen them. Write on the board the question:

What will help a child to grow and give him a tall, straight body?

Ask all in the class to try to answer this question, and write the best answers where they can be seen by all.

Frequent change in position and plenty of exercise aid growth.

Sunshine and fresh air make rosy cheeks and strong bodies.

Standing and sitting erect will help to give one a graceful figure.

The growing child needs plenty of good, simple food.

Two Things which Stunt Growth.

Teacher—"Last Friday, you remember, we read about Alice in Wonderland and the strange things that befell her there. What happened to her after she had taken a drink from the little bottle on the table?"

Esther—"She shut all up like a telescope, and kept growing smaller and smaller until she was only about ten inches high."

Teacher—"You thought that was very wonderful until you found it was only a fairy story. But something quite like that really happens to people now and then, I'm sorry to say. Let me tell you what I mean.

"A little German boy lived near me last winter. His name was Hugo, and we got to be great friends. One day I asked him how old he was and he told me he was nearly fifteen. I could hardly believe him, for he was no larger than some of you. Some weeks after I learned that Hugo drank beer every day and that he had been in the habit of smoking cigarettes ever since he was five years old.

"Then I knew why he was so small and puny. The beer and tobacco had poisoned him. We found that growing children need plenty of food every day and beer and tobacco are not foods but poisons. They need to be kept warm and comfortable, and the alcohol in beer sends the heat to the surface of the body, where the air cools it. They need to get rid of waste matter from their lungs and skins and bodies, and these poisons keep this work from being done as it ought.

"Poor little Hugo was much worse off than Alice in Wonderland because nothing he could eat or drink would make him grow taller. He will have to stay undersized all his life because he did not know in time what these poisons have the power to do to children.

"Perhaps some of us would like to be like Alice and grow tall or short whenever we please, but is there any one who would care to be like Hugo and always have to stay smaller than other people? What is the best way to prevent such a thing happening to us?"

We can take good care of our bodies.

We can let beer and tobacco and all other poisons entirely alone.

Authoritative Quotations.

Physical Disability does not Pay.

Out of forty applicants from the Newsboys' Home in New York for appointment in the United States Naval service thirty-eight were rejected on account of physical defects. The cause of rejection of most of the candidates was the unsoundness of their teeth. One boy's skull was discovered to have been cracked and mended at some period of his life, and he was placed among the rejected ones.—[Dietetic and Hygienic Gazette.

Four Conditions Essential to Animal Life.

The constant co-operation of four conditions is essential for the maintenance of the physiological processes involved in animal life. These conditions are healthy protoplasm or living organized matter, food containing all the elements necessary for growth and repair, a suitable temperature, and an adequate supply of free oxygen.—N. S. Davis, M.D., LL.D.

Alcohol does not Build up the Body.

Alcohol does not and can not sustain vitality when taken into the body. It is a chemical and physiological impossibility. Nothing can sustain the vitality of the body which can not nourish the tissues, or aid in generating heat in the body and eliminating carbon dioxid from it; and alcohol can not nourish the tissues, combine it with what you may, nor produce heat in the body, nor eliminate carbon dioxid from it. No man therefore, from a scientific consideration of the constituents of alcohol, can show

that it is or can be capable of any real or permanent benefit in cases requiring a substance imparting vitality to the body or sustaining vitality in it.—W. V. R. BLIGHTON, M.D.

ALCOHOL LESSENS GROWTH.

Alcohol and every other narcotic diminishes the activity of both vegetable and animal nutrition or growth, lessens the activity of the leucocytes, and favors cell degeneration both in the blood and in organized structures.—N. S. DAVIS, M.D., LL.D.

ALCOHOL KEEPS THE BODY FROM BEING NOURISHED.

The effect of alcohol on the system is to paralyze and impoverish the nutritive system. Conditions of practical starvation supervene, affecting all growth. Hence degenerate teeth and gums are the natural outcome. It is a fact that inebriates, as a rule, suffer from early disease and death of the teeth. — T. D. CROTHERS, M.D.

ALCOHOL POISONS THE BODY.

Alcohol is a functional tissue poison. —FRANK PAYNE, M. D., Vice - president London Pathological Society.

ALCOHOL DECREASES THE POPULATION.

There were thirty thousand more deaths than births in France during 1893, and the fact of the steady decrease of the population for the last twenty years I attribute to the annual increase in wine drinking.—FRANK MERLIN, M.D.

"The angels come, a glad surprise,
And go again to heaven."

ALCOHOL AND TOBACCO FURNISH NOTHING THE BODY NEEDS.

We are satisfied with about the same quantity of milk, bread, meat and water three times a day after using them fifty years as we were at the beginning. But can we find five in a hundred who have used any kind of alcoholic liquors or tobacco fifty or even twenty years, who still remain satisfied with three drinks or three cigars or pipefuls per day? These agents neither furnish food or material to repair the living tissues of the body, nor evolve any natural known force, nor actually satisfy any need that can be named. On the contrary, they impair every natural function of body and mind in direct proportion to the quantity used.—[Bulletin of the American Medical Gazette.

TOBACCO RETARDS DEVELOPMENT.

Tobacco retards both physical and mental devolopment of boys and youth. This effect is so fully proved that all intelligent writers agree in prohibiting the use of both narcotics until maturity of growth has been attained.—N. S. DAVIS, M. D., LL. D.

THE DAY WHEN THE SLEEPERS SHALL RISE.

The stars are spinning their threads,
And the clouds are dust that flies,
And the suns are weaving them up
For a time when the sleepers shall rise.

The ocean in music rolls,
And gems are turning to eyes,
And the trees are gathering souls
For the time when the sleepers shall rise.

The weepers are learning to smile,
And laughter to glean the sighs,
Burn and bury the care and guile
For the day when the sleepers shall rise.

Oh, the dews and the moths and the daisy red,
The larks and the glimmers and flows!
The lilies and sparrows and daily bread,
And the something that nobody knows!

—GEORGE MACDONALD.

"The riches of the commonwealth
Are free, strong minds and hearts of health;
And more to her than gold or grain
The cunning hand and cultured brain."

High School.

PRACTICAL QUESTIONS ANSWERED.

"A MAN may have the Ten Commandments frescoed on his face, or one painted on each finger, and yet not be a Christian," rightly asserts one of America's successful business men. Mere knowledge of good and evil by no means insures right choices, but knowledge is not therefore to be decried. Although not the only essential it is still an essential, and an important one.

To the child playing in woods and meadows, the deadly nightshade and the harmless wintergreen offer equal attractions. He will not instinctively select the one aud avoid the other. He must be taught the difference, and learn what flowers and fruits are safe and wholesome before he can be trusted to choose for himself. In later years he may wilfully taste or handle poisonous plants, but it is not knowledge which has incited his action.

So in the larger field of life. The young man who knows the true nature of alcoholic liquors, as revealed by the scientific investigations of the present age,—who has learned, what his father before him had no means of finding out, that whiskey will not ward off colds; that wines are not a tonic, nor beer a healthful appetizer; that muscular strength is not increased nor fatigue eliminated by recourse to alcoholic beverages,—may not be saved from indulgence in these poisons by this knowledge, but he has a better chance of escape than if suffered to meet these temptations single handed and unarmed.

We would not anticipate the child's normal development, nor his power to assimilate truth, but when these problems present themselves, as they do inevitably, he should be furnished with incontrovertible facts for their solution. Only thus can we expect future generations to be wiser than their predecessors, and better because wiser.

The question considered in this lesson is one of the most pertinent to health and longevity. If alcohol is really a food its value as such should long ago have been apparent. If it has wrongly held its place for generations as a wholesome and nutritious article of diet, every child has a right to know these facts as well.

Study with your class the needs of the body, eliminating from the list everything not absolutely essential to life and growth. Then take up the subject of food. Find out the purposes it serves for man,—why we need it, and how it best can be prepared to meet these requirements. Study so-called foods, and ascertain whether their claim to such rank has any foundation in fact. Alcoholic drinks belong in this category. Find what science has to say of them as substitutes for food, and give each pupil such full knowledge of the truth that he will be able to answer wisely and honestly for himself the question —

Is Alcohol a Food?

Alcohol is neither directly nor indirectly a food; it does not promote digestion; its habitual use impairs not only the resisting but the recuperative power of the system.

—H. D. Didama, M.D., Syracuse.

Alcoholic drinks are not articles of food; they never serve as food; they do not behave in the body as foods do; they are always rejected and thrown out of the body as soon as they can be got rid of by the organs which scavenge the blood and keep from it impure and poisonous matter.—James Edmunds, M.D., London Hospital.

Alcohol, taken however moderately, is not to be classed among nutritious substances. — Adolf Fick, M.D., University of Würtzburg, Germany.

Alcohol appears from its very constituents to be incapable of nourishing the tissues. It contains no nitrogen, and consequently can not supply any to the body. It has none of the qualities of the structure-building foods, it is not capable of being transformed into any of them; it is therefore not a food in the sense of being a constructive agent in the building up of the body.—W. V. R. Blighton, M.D.

As to alcohol being an indirect material of nutrition, it is certainly nothing of the kind.— August Smith, M. D., Schloss-Marbach, Germany.

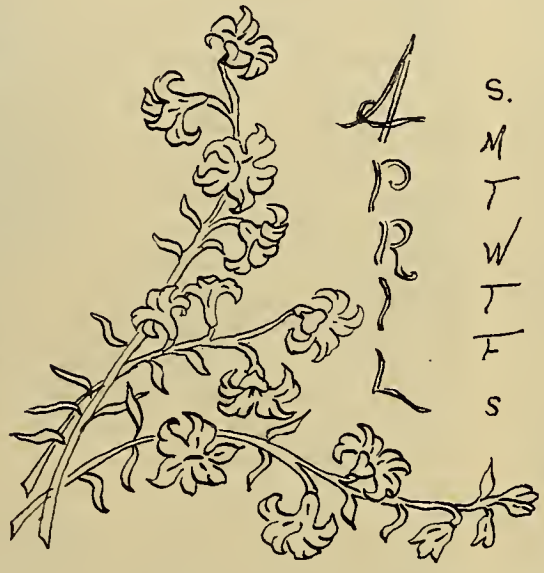
Alcohol does not act as a food to nourish the tissues. It cuts short the life of rapidly growing cells or causes them to grow more slowly. —Lionel S. Beale, M.D., F.R.S., London.

Alcohol is not in any sense a true food-stuff. Containing no nitrogen, it can not contribute to the muscular, the nervous or the glandular systems. It fails to meet the demands of the body for proteid material, and so supplies no necessity of life. It furnishes no strength. Its

apparently stimulating effect is fraudulent, being only the lash that exhausts all the sooner, and utterly fails to renew. Thus, as alcohol has no value for food, or strength, or heat, by no claim of any possible merit can it be used as a beverage. As such its effect is only evil, and that continually.—A. F. BLAISDELL, M.D., Boston.

To call alcohol a food in the present state of our knowledge of its effects is an abuse of the language. We possess no particle of satisfactory and scientific evidence to show that it is such.—[British Medical Journal.

Alcoholic liquors do not and can not fill the office of either food or drink, for taken in moderate quantities they are useless, while in excess they interfere with the functions of natural food and drink, hence are neither food nor drink, but in every sense poisons. — WM. HARGREAVES, M.D.



"April starts and calls around
The sleeping fragrance from the ground."

Alcohol is not a true food. — E. SMITH, M.D., F.R.S.

Alcohol can not, by any ingenuity of excuse, be classed among the foods of man. It supplies matter neither for construction nor heat; on the contrary, it injures construction and reduces temperature. In whatever way alcohol acts on the body it acts as a reducer of the powers of life. Nothing more effectively hinders digestion than alcohol.—SIR BENJ. W. RICHARDSON, M.D., LL D.

Alcohol diminishes the activity of nutrition. If its use be continued the assimilative powers of the system become so weakened that the proper amount of food can not be appreciated. [Bulletin American Medical Association.

Facts show that alcohol is really not a food. When taken into the body it undergoes some chemical changes, but this is also true of almost every substance that can be named. Even such mineral substances as iron, lead, and arsenic are changed or oxidized in the body as is alcohol, yet they are not in consequence claimed to be foods.—[Bulletin of American Medical Association.

Alcohol can not supply anything which is essential to the due nutrition of the tissues.— Dr. CARPENTER.

Alcohol is not a food in the true sense of the word, for a food should build up and replenish all the tissues of the body without being hurtful to any. This is not the case with alcohol.—SURGEON-MAJOR G. F. POYNDER.

It has long been known that the use of alcohol diminishes the elimination of proteid substances in the excretions. This was thought to be an evidence that, if it were not an active food, it was at least a means whereby tissue degeneration might be lessened and the bodily waste thereby diminished. Careful investigation of this matter shows however, that alcohol does not actually diminish the amount of the products of tissue activity, but that it prevents their elimination so that they remain in the tissues.— J. H. KELLOGG, M. D., Battle Creek, Mich.

Messrs. Lallemand, Perrin, and Duray proved that the action of alcohol in the system resembled that of chloroform and ether, and that it could in no sense be looked upon as a true food, like starch or fat. They therefore concluded that it could not be considered a food.— C. R. DRYSDALE, M.D., London.

Alcohol undergoes no digestive or molecular change in the stomach, but is rapidly absorbed and mixed with the blood. While in the blood it does not furnish any material for either growth or repair of any of the organized tissues, and consequently does not act as a direct tissue food.— N. S. DAVIS, M.D., LL.D., Chicago.

One tablespoonful of whiskey reduces digestive activity more than seventy-five per cent.— DRS. CHITTENDEN and MENDEL, Yale University.

Alcohol is a slow but sure working poison that robs men of their physical and mental force the more it takes the place of ordinary food.— ADOLF BAER, M.D., of the Royal Sanitary Commission of Berlin, Germany.

Our work, whatsoever it be, must be the best of its kind, the noblest we can offer.— SIR EDWARD BURNE-JONES.

AMERICAN CIVILIZATION.

VIII. African and Indian Influence.

"The only expiation of an old crime is a new virtue."

BOOKER T. WASHINGTON.*

THE privilege of American citizenship in this generation brings with it weighty responsibilities. No nation was ever confronted with a greater multitude of vexed problems at home and abroad; no nation ever met them with sublimer optimism.

Not Europe alone has sent us her millions; Asia, Africa and the islands of the sea have added their willing or inforced contributions. The Europeans who have elected America as their home have uniformly identified themselves with us as a nation. They owe a debt of gratitude to the founders of the republic; many have helped to lay the foundation stones. But we have with us also "wards of the nation," who had no choice in home or fortune, and who of all the motley throng had reason to look upon the white man as their natural enemy. In their case the situation is reversed. The debt of honor is ours; the interest is long overdue, and we are just fairly beginning to think of payment.

The red man indigenous to the soil, and the black man forced to labor on it against his will,—children of the plains and of the tropics; the one, strong-willed, untamed, nomadic, revengeful; the other, docile, obedient, reverent, affectionate,—both have helped to make up the nation, and to mould the character of its people.

The admixture of these races with the Caucasian, the development of hatred, injustice, intolerance, false social and moral standards, idleness and industrial stagnation; of vice, cowardice, duplicity, inforced labor and material wretchedness,—all these conditions have been forced upon the Indian and the Negro by the dominant race.

"The Indian has lost his picturesqueness and has become commonplace; where he was once keen and active he is now slow and inert. We have taken from him his old free life, the life that he loved, and we are trying to make him live our life, with all its restraints and limitations. We are trying to force this wild creature who was once so free into the hard, rigid mould of civilization, and we do not find him plastic."

We deprived both peoples of the priceless sense of personal independence. To feel that he was helpless before a superior foe was more galling to the Indian than it could ever have been to a more enlightened victim. The African, with here and there an exception, chafed less frantically, but the result appeared as inevitably. True to his more mobile, tropical nature he grew irresponsible and corrupt in trying to escape irksome demands. But for the conditions that have made each what he is neither the Indian nor the Negro is wholly to blame; both are what they are. For the future, education hold out the same possibilities to them as to others.

Many believe that the Indian in his primeval forest was far better off than he is now; that the Negro in the heart of the dark continent is a happier and a truer man than his brother in this country, scarred and degraded by a hateful bondage. This statement at best is but a half truth, since it involves not alone the man as he is but also what he and his children may become. "The present Indian problem is one of assimilation, a wholly different one from the first old war problem which was settled once for all by the disappearance of the buffalo." The Negro and Indian in the United States to-day are in the line of progress.

"An inferior and a superior race will not exist permanently side by side. The Indian must be civilized or go. The Negro must have a home, must have churches and schools, must be a man, or give way to the dominance of a superior race. This is what Bushnell calls 'the out-populating power of Christian stock.' The Anglo-Saxon race will dominate the world if the other races of merit can not or will not conform to its standard."

Mutual distrust between the races as old enemies is the most discouraging feature in this work of assimilation. Helplessness and inefficiency on the one hand and arrogance on the other delay the good work that might be advancing rapidly. One who has worked long and earnestly among the colored people of the South says:

"Christianity is the only solvent of the world's antagonisms. All its great questions are questions of brotherhood. In the sight of God the only business of a superior race is to help an inferior. 'If any be great among you let him be your minister.'"

At the present time there are 8,000,000 colored people in the South. There are about 250,000 Indians, mainly in Indian Territory and the Rocky Mountain region. It is claimed that idleness and vice and consequent disease are decimating their ranks at an alarming rate. It

* Courtesy of Boston Herald.

is an indisputable fact that the system of doling out rations to the Indians without requiring an equivalent in work is a fatal mistake, and is robbing them of their self-respect as well as rapidly vagabondizing them.

It is true that many colored people mortgage their crops for food to last while the crops are growing, that they fritter away their earnings and resort to petty dishonesty to make up the balance. But all do not.

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Indian boy on arrival at Hampton.*

As the problem is one of brotherhood, as it is one of assimilation, so it is one of education. We can help and assimilate these two races only by educating them. Even more than in the case of the illiterate foreign immigrant this is true of the Negroes and the Indians. We must educate before we can legislate them into self-reliant manhood. "No attempt to enlighten the South on its duty to the colored man will ever secure what we want. . . . There is no power in the national government to effect it. . . . It must come through the Negro himself."

The Indians unless they have been subjected to most unfavorable conditions are self-respecting, noble-minded, and responsive to all rightful appeals to their better nature. Mr. George Bird Grinnell, who has had a long and intimate association with them, says: "There is probably not an Indian tribe in the United States which could not under the direction of the right kind of man become entirely self-supporting within ten years."

If the philanthropist or the patriot is inclined to be discouraged because that which will surely take many generations is not secured in one, he may call to mind the fact that the providence of God is a continuous providence, and as the great historian of France says: "Its logic is not the less conclusive for reasoning slowly."

Secretary A. F. Beard of the American Missionary Association remarks: "The Negroes are now taking their first step in their historic life as a people. No people ever got so far as their advance guard has more easily and more rapidly."

When we consider that four million Negroes were set free in this country less than fifty years ago, most of them never having known a mother, much less a father, forbidden to learn to read and absolutely without property, far more dependent and helpless than our little free born children, we can hardly wonder that they are not yet all up to our fin de siècle standard.

"The colored people of the South," says Judge Tourgée, in a recent speech, "have accomplished more in twenty-five years, from an industrial point of view, than any people on the face of the earth ever achieved before under anything like such unfavorable conditions."

"We should not forget that we are insisting that the Indian shall accomplish in a generation a measure of advancement which it took our own race some thousands of years to attain."

A recent writer on the Indian problem in the Independent checks off on the fingers of one hand the essentials of citizenship—land, law, labor, learning, and the thumb, love. That Indians of pure blood can attain real culture and true citizenship according to the European standard, is shown by the record of the many Indian graduates of our colleges and universities, Charles Eastman and Simon Pokagon among the number.

At the World's Fair on Chicago Day an interesting and suggestive incident occurred. After ringing the Liberty Bell and speaking in behalf of his people in accordance with a previously arranged program, Mr. Pokagon presented to Mayor Harrison, who was curiously enough himself a descendant of Pocahontas, a duplicate of the treaty by which his father, a Pottawattamie chief, in 1833 conveyed Chicago to the United States for about three cents an acre.

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Indian boy after working and studying at Hampton.*

The Carlisle, Pa., Indian school, where representatives of more than sixty different tribes are gathered, and many other institutions of similar character, are doing wonders, though as yet they are inadequate to meet the need. What Gen. Armstrong did for the Indians, that wise, great hearted leader of his own race, Booker T. Washington is now doing for the Negroes. Hampton and Tuskegee many times repeated will set these peoples on their feet, and by giving them education of mind, Christian character, ideas of thrift, economy and push, and a spirit of independence, will make them respected by their white neighbors and

* Courtesy of D. C. Heath & Co.

entirely able to take care of themselves. "If a Negro holds a mortgage on a white man's house, which may be foreclosed at any time, there is little danger of the white man's trying to suppress his vote when election day comes."

In spite of the evils of slavery the Negro got from it the habit of work. It has been given Mr. Washington preëminently to see that in order to uplift the colored race labor itself must be dignified, beautified, robbed of its drudgery. In this he sees the salvation of the whole South. He recognizes the moral value in a well-painted house. He realizes that the friction between the two races will pass away just as soon as the black man, by reason of his skill, intelligence and character, can produce some thing that the white man wants or respects in the commercial world; in short, when all the dependence ceases to be on one side. The aim of these industrial schools might well be expressed in the words of W. E. Burkehardt Du Bois: "The object of all true education is not to make men carpenters, but to make carpenters men."

Just at sunset, on March seventeenth, the bells of old Boston rang out clear and strong. One hundred and twenty-three years ago the same bells heralded Washington's control of the city and the coming overthrow of tyranny on American shores. To-day they proclaim a different message and are attuned to peace. On the heights from which our fathers watched the passing of the British vessels from Boston harbor, the state is now erecting a magnificent school house as its most fitting monument to mark the spot. Patriotism does not change, although its habiliments may be altered. Sometimes it dons the blue uniform of the soldier fighting for his altars and his fires; again it appears in the business office or in legislative halls. But always and ever its heart is single, unswerving, loyal to present duty and present trust. The American of to-day as truly as his fathers before him may claim this virtue as his own.

SONG.

WILLIAM WATSON.

April, April,
Laugh thy girlish laughter;
Then, the moment after,
Weep thy girlish tears!
April, that mine ears
Like a lover greetest,
If I tell thee, sweetest,
All my hopes and fears,
April, April,
Laugh thy golden laughter,
But, the moment after,
Weep thy golden tears!

BOOK NOTICE.

AMERICAN INDIANS, by Frederick Starr, D. C. Heath & Co., 1899, is the second in a series of ethnological readers. If it is a fair sample of the others in the series we give them a word of cordial appreciation. This little volume of 227 pages is readable from start to finish. From it the pupil may get an idea of the romance and charm of the Indian's old, wild life. It preserves in attractive form and makes plain by numerous illustrations habits and traditions of the Indians that will soon be only a memory but are far too interesting to be lost. "Stories of Indians" and "The Baby and Child" are especially interesting chapters. The writer has evidently made a thorough study of his subject. While his conclusions are gloomy he does not impose them upon the reader.

PHYSIOLOGY TOPICS FOR APRIL.

PRIMARY — External parts of the trunk. Grapes and wine. Review of senses; uses, care, training of each. Review of internal parts of body: bones; muscles; nerves.

INTERMEDIATE — Muscles. Brain and nerves. Special senses.

ADVANCED — Digestion and assimilation. Nervous system. Bones.

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The School Physiology Journal

B. P. L.
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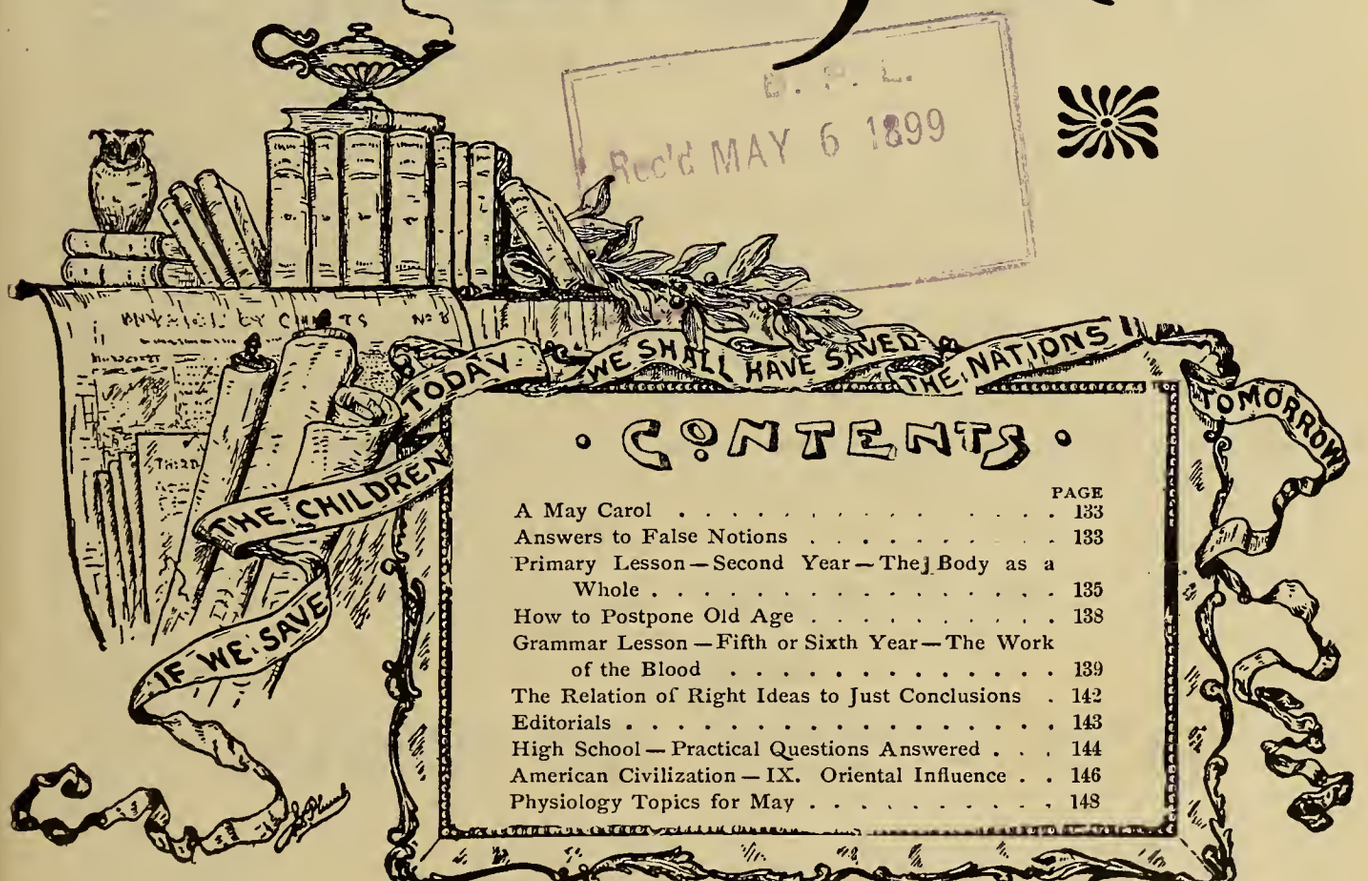

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MARY H. HUNT, EDITOR.

VOL. VIII. No. 9.
MAY, 1899.

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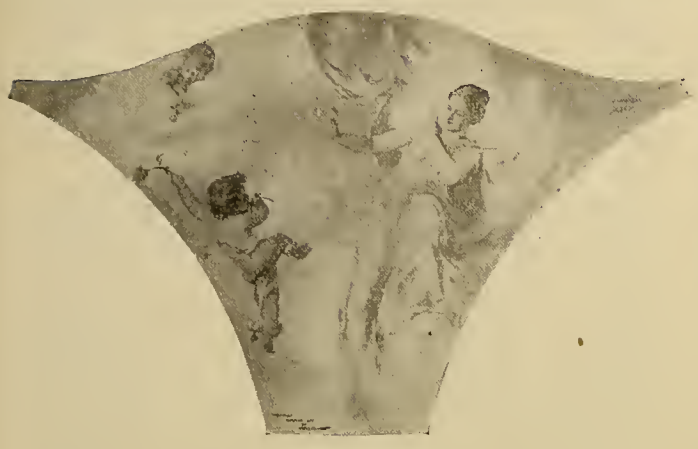


A MAY CAROL.

"Up from the cup of morning
Redolent perfumes rise,
Where, with its fair adorning,
Dewy the garden lies.

Bud,—and the blood is hastened;
Bloom,—and the heart grows gay;
Leaf,—and the grief that chastened
Dies at the dawn of May."

ANSWERS TO FALSE NOTIONS.

THE following misconceptions have arisen in certain quarters concerning the teaching of Physiological or Scientific Temperance:

First, Temperance is a moral, not a scientific question; therefore if taught at all in the schools it should be from the moral standpoint only, because the strengthening of the moral nature is the best preventive of intemperance.

Second, If you teach the pupil the evil character and effects of alcohol and tobacco, the law of perversity in his nature will make him want to try those things for himself.

Third, As long as the fathers smoke and drink, it is not only of no use to teach the children not to do the same, but such teaching is disrespectful to parents.

In answer to the first objection that temperance is a moral not a scientific question, let us inquire:

First, Is it not true that a moral question is one that considers what is right or wrong in action on the part of beings capable of choice?

Second, Are there not certain facts which are the reasons for an action or course of action being right or wrong?

Third, If these facts, the reasons for the right or wrong, are duly arranged in the case of each obligation, do they not form the science of that special obligation? Webster says that science is knowledge duly arranged.

Fourth, Can a person be taught the principles of morality in any case, or to choose the right intelligently, without being taught the facts which show why one course or set of acts is right and another wrong? Are not these facts the science of the case.

To illustrate: Moral obligations may be classified under three general heads:

First, Duties to our Maker.

Second, Duties to our fellow-men.

Third, Duties to ourselves.

The facts giving the reasons for our duties to our Creator are set forth in the science of Theology.

Those in the case of our duties to our fellowmen are classed as the science of Sociology.

The facts that prove our moral obligations to ourselves in the case of alcoholic drinks and other narcotics, are very properly termed the science of Temperance. Here, as in the case of other duties, no person can fully comprehend the extent or scope of that obligation without knowing the facts. The answer to the question, "What is the nature and effects of these substances?" gives the facts in this case, on which the whole temperance question rests.

There is no such thing as a moral question without a basis of fact which is the science of the question. These are not the days of dogmatic morality. Modern morality teaches the reasons for the right, shows why, and thus strengthens the moral nature.

The objector says, "Strengthen the will to resist temptation." How do we strengthen the will? The will is the faculty in us that acts on choice, and our choices are more or less influenced by our knowledge or ignorance of the facts in the case. How would you strengthen the will of a boy against the temptation to row across the Niagara river a little way above the falls; by telling him he must not, it would be wrong, or by explaining to his reason the perils that inhere in that fatal current? How would I strengthen a boy's will against intemperance? I would try to give him intelligent reasons on which his will should act. Just as I would teach him the character of the Niagara rapids, I would teach him the nature of the alcoholic rapids, that lead to a worse, a more hopeless plunge into utter darkness. While I would never exaggerate, I would search for the truth on this topic as for hid treasures, and then teach it, abating not one jot or tittle, leaving the consequences with him who said, "I am the Truth." He has so made the human mind that it is moved by truth that warns as well as

promises. Before appetite is formed, I would teach the boy the dangerous and deceptive character of alcoholic drinks and other narcotics, especially the proven fact that a little alcohol in any liquor has the power to create an imperious, uncontrollable, and destructive appetite for more, and therefore its use in any quantity is never safe. I would thus show him that there is a scientific connection between the first glass and the drunkard's fate; I would not preach at the boy nor weary him with repeated homily, but I would lead him, through the study of the laws of his own being, to see and understand for himself that the inestimable blessing and happiness of a strong, healthy, useful life are the result of obedience to laws written in our living tissues, and that the penalty of disobedience inheres in the law itself. I would strip the wine-cup, and the whole brood of strong drinks, the pipe, the cigar, and the cigarette, of the glamour with which ignorance and tradition have surrounded them, and help the boy to see them and their consequences as labeled by modern science — Narcotic Poisons.

In answer to the second objection, that teaching the evil character of alcoholic drinks will make the pupil want to try them for himself, we reply: If we tell the boy the perils of the rapids in the smooth, safe-looking stream above the falls, will he immediately wish to embark thereon? Is it a rule that teaching the consequences of evil is only furnishing a motive for immediately plunging into that evil? If so, there must be something radically wrong in the most authoritative of all teaching; for all through the Bible the blessings of right doing are coupled with vivid descriptions of the consequences of following the wrong. Gerizim and Ebal stand together. I am sure the great body of teachers in our land will agree that it will be safe for us to follow in method the great Teacher. He made the human mind, and he knows the laws of its development far better than we ever can, after all our study.

We teach the need of pure air and good ventilation by showing its importance and relation to health, how to get it, and the consequences of its absence. If you teach the need of oxygen by showing the consequences of breathing vitiated air, are you thereby teaching imperfect ventilation? Such a claim would be absurd. And yet a recent writer refers to teaching the evil nature and effects of alcoholic drinks, as "teaching intemperance." Do the vivid descriptions of intemperance in the woes the Bible pronounces upon drunkards teach intemperance. These objectors certainly need a new and expunged version of the greatest of all manuals of instruction.

Experience after all must decide, and happily we are not without precedent. Wherever in the forty-two states of our country the spirit and letter of the law requiring this study are obeyed, and well graded text books containing the truths the law requires taught on this topic are used, with the same wise and thorough methods of teaching as in the case of other branches, pupils have not consequently rushed headlong to the saloons. On the contrary, an intelligent aversion to strong drinks and other narcotics is manifest; fewer cigarettes are smoked, and pupils are more careful to obey other laws of hygiene.

Giving an occasional temperance exhortation in the school room may take less time and study on the part of the teacher, but compared with the results of carefully prepared lessons that guide the pupil in finding and intelligently understanding the reasons for total abstinence from alcohol, tobacco, and other narcotics, and for obedience to other laws of health, the mere exhortation or so-called moral homily falls immeasurably short.

The prophet said: "My people are destroyed for lack of knowledge," not for lack of exhortation. To a right minded child or youth, the most impressive of all moral lessons is the one that convinces his understanding, and is thereby lodged in his reason. That all children and youth are not right minded towards alcohol and tobacco is evidence of the deep wound these substances have made upon our humanity through inheritance, upon children and children's children. That some of these, heavily weighted with the sins of the fathers, will go wrong any way does not prove that faithful instruction is useless in all other cases.

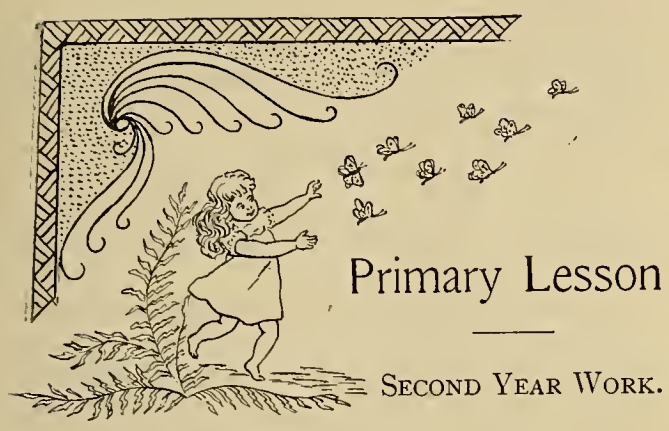
To the third objection we would put the question: Shall we make no attempt to teach the children better, because the fathers drink and smoke? Because some parents murder the Queen's English, we do not therefore think it useless or disrespectful to parents to teach the children correct speech, and as a consequence the generations rise in the scale of better utterance.

The difficulties of teachers who were commanded to teach this topic and given nothing to do it with but the imperfect, badly graded books first put upon the market are appreciated. But a better day has dawned. Well graded manuals of instruction that contain these truths adapted to all classes are published in great abundance and variety.

Truth is the lever of Archimedes that moves the world. The truth concerning the evil nature of alcoholic drinks and other narcotics is the lever destined to overthrow their use. To the teacher has come the opportunity to scatter that truth. Opportunity is God's command.

MARY H. HUNT.

"Nothing in nature escapes to-day
The touch of the life-giving, bright, young May."



Primary Lesson

SECOND YEAR WORK.

THE BODY AS A WHOLE.

THE man of power, according to Phillips Brooks' definition, is the man who is right and who thinks right. In other words, he is of sound body and healthy morals.

Measured by this standard the present output of our schools is far from satisfactory. It is true that the average student is graduated to-day with much better equipment for life than could possibly have been his father's or his grandfather's, but we are still far from having reached the limit of his capacity, either physically or mentally. It is mind and not machinery, in the last analysis, that does the world's work. In justice then to those who are to come after us, and upon whose shoulders must rest the weighty responsibilities of an ever developing civilization, every boy and girl must be given first, those conditions of food, exercise, well ventilated rooms and sleep which alone can build up a healthy physique; and second, such teaching as will awaken every intellectual power and develop the noblest character.

With such preparation we may confidently expect each succeeding generation to meet its responsibilities with added confidence and to achieve greater results than its predecessor.

During the first year of school life the child should learn the names of the different parts of the body, and acquire some degree of control over them. By the time the second year is reached he is ready for new facts and the enlarged application which these should bring. Begin a lesson for such a grade by reviewing what is already known about the body. An outline drawing on the board in colored chalk of a boy or girl will serve for illustration and keep every one interested.

THE PARTS OF THE BODY.

Teacher—"Suppose this picture on the board were a real live child like one of you, and we were to invite him to take dinner with us. What parts of his body would he need to use in eating? Come to the board and point to them. What parts would he use in catching a ball? in riding a bicycle? in drawing a long breath? in laughing? Point to each of these parts. What parts of the body have we not named?

Ask each child to name something he likes to do, then to tell what parts of the body he uses in doing it. What ways have we of moving about?

Compare the human body in various ways with that of animals. Let the children name animals which are larger than man; then those which are smaller. See if any one can think of an animal whose body is all in one piece. If not, show an oyster and ask the class to find whether it has any distinct head or legs. Get them to tell you how many parts there are in the body of an eel or a snake. How many in a caterpillar? in a frog? a boy?

Ask what parts of the body we can bend. What do we call these parts? Have the children find the joints in their arms, their legs. What other joints are there in the body? What is the use of each joint?

What animals have their bodies composed of the same general parts as man? What differences can be thought of between the body of a horse and the human body? Which can run faster? Which can stand upright? Which has hands? which is stronger? which has the better brain, and can think and learn more quickly?

Ask the class to name as many acts of animals as they can think of, while you write their answers on the board. Let the children come to the board one at a time and check off from this list everything which man can do, and then decide which is most skilful and able to do the greatest number of things.

Find how many have ever seen a person who has lost a finger, an arm or a leg. Ask what parts can be taken away and the person still live. What parts would cost a person his life if he should be deprived of them? What parts does a person need to do the best work.

This last question should lead to a consideration of the second topic:

CARE OF THE BODY.

Teacher—"Suppose our boy on the blackboard lived in a real house, and suppose he were to find some day that his home was all coming to pieces; holes in the roof where the rain could come in, plastering coming off the walls and everything about the place untidy and disagreeable. What would you advise him to do?"

Class—"He might build a new house."

"He could mend the old roof and repair the house he now lives in."

"He might buy another house and move into that."

Teacher—"He could do any of these things if he had money enough, but how is it with our bodies? We have to live in them all the time, just as a turtle lives in his shell. If we hurt

them or wear them out, can we buy new bodies? Can we even repair them so they will be as good as new? I am afraid they would always look patched and show that we had not taken good care of them. I know a man who has lived in the same house for seventy-one years, and it is just as strong and comfortable now as it ever was. How do you suppose he has kept it in such good condition?"

Elsie—"It was built strong in the first place."

Herman—"He has had it repaired just as soon as anything needed to be done."

Teacher—"These are two good reasons why his house has lasted so long. Now I wonder why it is that some people's bodily houses last so much longer than others. Can you think?"

Jessie.

Jasper—"Perhaps it's because they take better care of them. But I don't see how people can take care of that kind of a house."

Teacher—"Let us see if we can find out. In the first place what are houses built of?"

Class—"Mine is built of stone."

"Our house is made of wood."

"Ours is brick."

Teacher—"These are all good materials for houses, and when they are worn in any place we can put in a new brick or board and make them almost as good as new. Our bodies get worn out too, with all our work and play, and need repair. Only the other morning I heard a little girl trying to tell how hungry she was. She said: 'O mother, there is such a big hole in my stomach, I can't wait any longer for breakfast.'"

"You couldn't mend that kind of a hole with wood or stone. What do you suppose her mother did use?

"Yes, we need food to make good the waste of our bodies,—bread and butter and milk and eggs and fruit and fresh vegetables and meat.

"Perhaps some of you have been in a mill and have watched the men at work. They put in the grain at one end of the mill and it comes out at the other, fine white flour all ready to be made into bread. Something like that happens to our food when we eat. We put it into our mouths and in a very little time it doesn't look in the least like beef or potato. It has been changed into the arm that we play ball with, or the legs that we run with. Every time we work or play or think, we wear out tiny parts of our bodies, and every time we eat, our food goes to mend these worn out parts and make them as good as new.

Need of Exercise and Rest.

"But there are other ways in which we can take care of these wonderful bodies of ours. Let us think what they are.

"You sometimes have chicken for dinner. How many have noticed a difference in color between the meat on a chicken's leg and that on his wing? Which meat is more tender? Which part did the chicken use more? Why does a horse have very strong legs? How do a baby's arms get strong?" Set the children to thinking by such questions as these until they know that

Every part of the body grows strong by exercise.

Many children are unwilling to go to bed at an early hour. They must be taught that plenty of sleep in the first part of the night is another important essential to growth. Show them the picture in this lesson of little Jessie Hilton and tell them how she got her bright face and clear complexion.

Early to Bed.

Jessie Hilton was never ready to go to bed. "Let me sit up just a few minutes longer?" she used to beg her mother when seven o'clock came. "It's so early, and I'm not one bit tired."

One night Mrs. Hilton called Jessie to see the new dress she had just finished for her. The child was delighted.

"Now I won't have to wear my old one any more," she said. "I'm so glad for it's 'most worn out."

"How is it that little girls don't wear out as well as dresses?" asked her mother. "Shouldn't you think they would, running about and playing as hard as they do every day?"

"Why, how funny!" laughed Jessie. "'Course they don't wear out, 'cause, 'cause they're alive, I guess."

"That is one reason," said Mrs. Hilton. "But they wouldn't stay alive very long if they romped and played all the time. Every time you run or jump or even move you are wearing out your body whether you feel tired or not, and these worn places have to be kept mended.

We don't use cloth and needles and thread to repair our bodies as we do when we mend dresses. A good breakfast and dinner will answer the purpose much better, but something else is necessary besides food, and that is sleep. If we get all the rest and sleep we need every night this will give our bodies a chance to grow and they will be even stronger than they were before."

"Is that why you make me go to bed early?" asked Jessie. "So I won't wear out?"

"That's just it," said her mother. "I want my little girl to have bright eyes and rosy cheeks and a strong active body, so I take care that she gets a good long sleep every night with plenty of fresh air in her room."

Do you want to know how Mrs. Hilton's plan succeeded? She had Jessie's picture taken that summer, and here it is. Don't you think she looks like a pretty healthy little girl?

"She was afraid of boys."

Need of Cleanliness.

One of the cardinal virtues to be instilled into the minds of children is that of cleanliness. Every primary teacher knows the difficulties in the way of securing clean hands and faces, and has much practical experience before attaining this end with every pupil. Teach the children the moral as well as the physical value of cleanliness until they too realize its desirability and lend their hearty co-operation. Tact must be used in introducing the subject and some little story will often be found the happiest medium, especially if illustrated by drawings or other pictures.

How Dan Got His Cherries.

Baby Marion had found a prize. She trudged out to the old cherry tree one morning hoping to find some of the ripe fruit low enough for her to reach and there on the ground was a newspaper nearly full of bright red cherries. Here was luck indeed. Just as she had gathered her treasures into her arms, along came Dan Evans with both hands in his pockets.

When he saw Marion he gave a low whistle of surprise. She had his cherries.

Dan was only a rough boy but he never thought of taking his property away from a little girl, neither did he want to lose those cherries. He flung himself down on the grass to think the matter over.

Marion drew back a little. She was afraid of boys and Dan looked tumbled and dirty. Perhaps he would take her cherries if he got a chance. But Dan never moved. Marion ate one or two, then she began to feel a little selfish.

"If you were a nice, clean boy," she said after awhile, "I'd give you some cherries."

Dan grinned till he showed all his teeth.

"Am I dirty?" he said. "Wait a minute then, and I'll clean up."

He scrubbed his face and hands vigorously in the little brook near by, then presented himself again to the little maid.

"Will I do now?" he asked.

Marion held out a big cherry for reply, and soon the two children were eating away in the most friendly fashion.

"Do you know what made me look so bad?" Dan asked after a while. "I got all tumbled up picking those cherries this morning."

"Were they yours all the time?" said Marion. "Then I like you 'cause you didn't take them away from me, but I like you better now you're clean."

Tell this story to the children. Ask for some of the ways in which the hands and face get soiled. Can we work or play at anything and keep perfectly clean? Why do we need to bathe often? Should the hands and face be washed before meals? Why do we need clean hands in school? clean faces? How do birds

keep clean? What animals have you seen take a bath?

The Harm Done the Body by Alcohol and Tobacco.

In warning the children against the use of narcotics, get from them as good a description as possible of the kind of men and women they would like to be when grown. All children will want to be tall and strong with clear eyes, quick ears, and able to think well and readily. Bring out these facts, then write on the board at their dictation a review of the essentials to such growth and development already referred to in this lesson.

Ask how many have a bird at home or some other pet. Let them decide whether their pets need proper kinds of food, plenty of sunshine, a chance to exercise and rest, water to drink and bathe in, in order to grow and keep well. Would it be a good plan to feed them anything which might make them sick or stop their growth? Ought we to be any less careful of ourselves than of our pets? Who can give a reason why children should never smoke cigarettes? Why they should never taste beer or any other liquor which has alcohol in it?

Even little children want to know the reasons for prohibitions placed upon them by teachers and parents, and are likely to resent arbitrary statements. Give them short, simple explanations of the harm done to the body by narcotics and thus satisfy this natural curiosity while at the same time fortifying them against the temptations they must meet.

HOW TO POSTPONE OLD AGE.

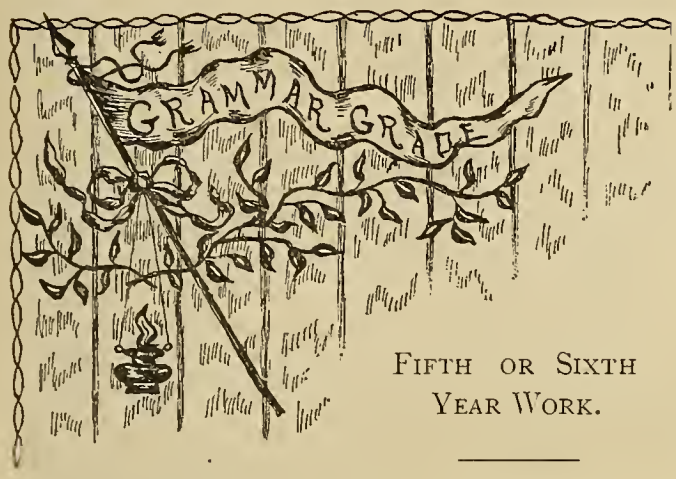
ANATOMICAL experiment and investigation show that the chief characteristics of old age are the deposits of earthy matter in the human system. Carbonate and phosphate of lime, mixed with other salts of a calcareous nature, have been found to furnish the greater part of these earthy deposits. As observations show, man begins in a gelatinous condition; he ends in an osseous or bony one—soft in infancy, hard in old age. Of course these earthy deposits, which affect all the physical organs, naturally interfere with their functions. Partial ossification of the heart produces the imperfect circulation of the blood which affects the aged. When the arteries are clogged with calcareous matter there is interference with circulation, upon which nutrition depends. Without nutrition there is no repair of the body.

None of these things interfere with nutrition and circulation in earlier years. The reparation of the physical system, as every one ought to know, depends on this fine balance. In fact, the whole change is merely a slow, steady accumulation of calcareous deposits in the system. . . . When these become excessive and resist expulsion, they cause the stiffness and dryness of old age. Entire blockage of the functions of the body is then a mere matter of time; the refuse matter deposited by the blood in its constant passage through the system stops the delicate and exquisite machinery which we call life. This is death. It has been proved by analysis that human blood contains compounds of lime, magnesia and iron. In the blood itself are thus contained earth salts. In early life they are thrown off. Age has not the power to do it.

Hence, as blood is produced by assimilation of the food we eat, to this food we must look for the earthy accumulations which in time block up the system and bring on old age. . . . Almost everything we eat contains more or less of these elements for destroying life, by means of calcareous salts deposited by the all-nourishing blood. Careful selection, however, can enable us to avoid the worst of them.

Earth salts abound in the cereals, and bread itself, though seemingly the most innocent of edibles, greatly assists in the disposition of calcareous matter in our bodies. Nitrogenous food abounds in this element. Hence a diet made up of fruit principally is best for people advancing in years, for the reason that being deficient in nitrogen the ossific deposits so much to be dreaded are more likely to be suspended. Moderate eaters have in all cases a much better chance for long life than those addicted to excesses of the table. Fruits, fish, poultry, young mutton and veal contain less of the earthy salts than other articles of food, and are therefore best for people entering the vale of years. Beef and old mutton usually are overcharged with salts, and should be avoided; a diet containing a minimum amount of earthy particles is most suitable to retard old age, by preserving the system from functional blockages. . . . The daily use of distilled water after middle life is one of the most important means of preventing secretions and the derangement of health. Diluted phosphoric acid is one of the most powerful influences known to science for shielding the human system from the inconveniences of old age. Daily use of it mixed with distilled water helps to retard the approach of senility. By its affinity for oxygen fibrinous and gelatinous deposits are checked, and their expulsion from the system hastened.

To sum up: Avoid all foods rich in the earth soils, use much fruit, especially juicy, uncooked apples, and take daily two or three tumblerfuls of distilled water with about ten or fifteen drops of diluted phosphoric acid in each glassful. Thus will our days be prolonged, old age delayed, and health insured.—W. Kinnear, M.D., in London Humanitarian.



FIFTH OR SIXTH YEAR WORK.

THE WORK OF THE BLOOD.

IN these days of high pressure no teacher can afford to neglect the health of her pupils. She deals not with pure spirit but with its physical counterpart as well. The public has the right to expect of its teachers common sense as well as learning. If pupils are unable to meet legitimate demands made upon their powers it is an imperative duty of the teacher to find where the difficulty lies and to remedy it to the utmost extext possible. In nine cases out of ten the cause will lie in some physical disability which can be removed or lessened if taken in time. The trinity of health has been summarized by Dr. Eastman to include:

1. A proper quantity of well digested and assimilated food to make good blood.

2. An ample amount of exercise to keep the blood in circulation.

3. Full and complete inspiration and expiration to supply oxygen and to carry off carbonic acid.

Each of these health essentials refers directly to the blood in its threefold capacity of supplying the body with nutriment and oxygen and removing waste. The blood is indeed the life, and there is no greater health problem to solve than that of securing the perfect fulfilment of its functions. Lessons upon this topic can be made alive with interest and should be so presented to pupils as to enlist their sympathy and co-operation in warding off disease and promoting the health and harmonious action of all organs of the body.

OUR NEED OF BLOOD.

If possible, plan to have the physiology lesson on this topic follow a geography talk in which has been brought out the industries and products of different countries. Continue the discussion in this class by calling for a list of the various articles of furniture in the room, the different kinds of material used in one's dress, and the kinds of food on our tables. Select a pupil to write on the board the names of the countries thus represented, then let the class decide how all these articles from distant lands are brought to their own doors. Then what products of the home locality are carried away in return.

Turn now to a similar kind of work all the time going on in the body, that done by the blood. Your pupils already know that every part of the healthy child is continually growing. He is taller and stronger this year than last, his arms and legs are longer, he is larger around his waist and chest, he weighs more. If lessons on food have been given, they have learned that this increase in the size of the body is largely due to the food one eats, the fresh air and sunshine he lives in. But food is usually taken into the body only through the mouth, and thence passes directly into the alimentary canal; oxygen is breathed into the lungs; how can both get to the remotest parts of the body and build them up? Ask questions like this until the class realize that there must be some intermediate agent to carry food from the digestive organs, and oxygen from the lungs, to the head and arms and feet, and every other part of the body. Then assign a text book lesson on the work of the blood, asking all to to find three reasons why we need blood in our bodies, and to be ready with full explanations on these points.

At the time of recitation have a concise statement of these facts written on the board:

The blood carries food to every part of the body.

The blood carries oxygen to all parts of the body.

The blood removes waste matter from the body.

Find if the class know whether all animals need blood and consequently have it. If not, ask how every part of their bodies is supplied with food and how the waste is removed? Bring a sponge or starfish into class for examination and show that in animals of this sort all parts of the body catch their food from the water and give off again what they can no longer use. Let them compare such animals with man and find which organism has the fewer parts and is simpler in structure. What are the advantages in man's case of having many organs, each with its own special work to do? Is there any disadvantage?

Ask your pupils to describe some industry with which they are familiar; first as it was carried on a hundred years ago, then as it is performed to-day, the manufacture of watches for instance. Have them find out how many people are employed now in making a single watch. How many a hundred years ago? Is the work better done by giving each workman one part to make? Is it done more quickly?

Describe to them some uncivilized country where everybody does all kinds of work for

himself and nothing for others, until all understand that where this is the case there can be no fine houses, no elaborate furniture, no great industries of any kind, but only the simplest possible ways of living.

Compare such a mode of life to the simple bodies and few organs found in the lowest forms of animals, and show that here too but a very humble and insignificant kind of life is possible.

Then help your class to compare the complex body of man with life in some large factory where there are many parts and many different kinds of work going on, and where life is extremely varied. Have them name some of the most important parts of the body and decide whether each does one kind of work or several. Does this division of labor indicate a high plane of living, or the reverse? Can each part of the body help other parts by doing its own work well? What parts are helped by the work of the blood? How does the blood help other parts?

The Organs of Circulation.

A text book lesson on this topic should bring out

What these organs are.

What they do.

How they are fitted for their work.

Have some one find from the dictionary the meaning of the word circulation. Then have drawings put on the board of the two circulatory systems of the body, one showing the course of the blood from the heart throughout the body and its return, the other the passage of the blood from the heart to and from the lungs.

Ask some one to read from his geography a description of the way in which land is irrigated on the dry slopes of the Rocky Mountains; how deep trenches are dug about a field and filled with water, from which lead smaller trenches until all the soil is moistened and fertilized. This may be reproduced on a small scale with a sand map which the class can make for themselves. Show by chart or blackboard drawing the four chambers of the heart, and the arteries, capillaries and veins. Also have the entire round of the blood traced through each back to its starting point.

The composition of the blood should be learned by each pupil from his physiology, and all should be able to make drawings of the corpuscles and to tell something about their work. These tiny bodies as they hurry along through the blood leaving food and oxygen behind them and taking up waste matter, may be likened to mail trains running through the country, leaving some packages at every station and taking on others. Call attention to the interesting structure of these organs and how it is adapted to its work. Have the class find from their text books how the material of which the heart and arteries is made differs from that of the veins and capillaries. Which have the more elastic walls? Why is the heart so largely composed of muscular tissue? What reasons are there for the valves in the heart and veins? Why are there none in the arteries? How do the capillaries compare with the veins in size? in number? In what parts of the body are the capillaries found?

After studying the structure of the organs of circulation until they know how these are fitted to do their work, the class should make themselves familiar with the process by which food and oxygen become a part of the blood to be carried to every organ of the body, and waste matter is collected from all the tissues and carried to the excretory organs. An illustration will help them to see how this is done.

Ask the class to think how a large city like Chicago gets food for its people. There are large fields of grain in central Illinois, and immense herds of cattle in Texas. Other parts of the country produce sugar and fruits, but all these food supplies would be of no use to Chicago unless they could be brought into the city, hence steamers and railway trains are continually gathering them up and forwarding them.

So in the human body. There is plenty of food in the stomach directly after a hearty meal, but it does the brain no good. It has to be softened by various digestive juices until it can soak through the walls of the alimentary canal. Then it must pass through the walls of the blood vessels into the blood itself which carries it to the brain and other parts.

Have the class find where the oxygen which the body needs comes from. How does it get to every tissue in the body? What waste matters are carried off by the blood? How is the blood sent to every part of the body? How much work does the heart do in a day? When does it rest? Why is there no pulse in the capillaries and veins?

Care of the Blood.

It is comparatively easy for pupils to learn how to take care of parts of their bodies which can be seen and felt, but more difficult for them to realize that the internal organs of the body need quite as much consideration. Yet this duty must be impressed. Have them find from their text books what is meant by a good circulation, and what are the conditions upon which it depends. Ask why it is that we are warmer when running than standing still. How does a morning plunge or shower bath affect the circulation? What effect does regular exercise have on one's complexion? Why do people who wear tight garters frequently suffer from cold feet and chilblains? What connection often exists between headache or trouble

with one's eyes and high or tight collars? How does impure air in one's sleeping room affect the blood? How can the blood be kept in a healthy condition?

The danger to the blood arising from the use of alcohol or tobacco can not be set forth in too vigorous terms, but it must be presented to pupils in a way to convince not to antagonize them. Some parallel case will often be found helpful. Ask if any one has a right to establish a factory on the banks of a stream flowing through a man's farm, and upon which he depends for his water supply, and then drain into it refuse which will pollute the water? How would this impure water hurt the farm? the cattle which drink of it?

Suppose a boy drinks beer or some other alcoholic liquor, or smokes cigarettes, how will these poisons hurt his blood? How do they reach the blood? Why is the drinker's face so often flushed? Is it a sign of health? What happens to a watch when the balance wheel is removed? What is the effect on the heart when its controlling nerves are deadened by the narcotic poison alcohol? Does alcohol help the heart to do its work? How is the structure of the blood vessels affected by the use of alcohol? What happens to the red blood corpuscles when alcohol is taken into the system? Why is it impossible for beer or ale to make blood as is advertised by the brewers? Why is the use of even weak alcoholic liquors unsafe? How does the use of alcohol or tobacco prevent the body from getting rid of waste matter as rapidly as it ought?

Discuss with your class other practical questions based on topics suggested by their text book study until they fully understand all statements there made regarding the effects of these dangerous narcotics upon the blood vessels themselves, upon their work of nutrition and excretion, and thus upon the health and well-being of every part of the physical organism.

AUTHORITATIVE QUOTATIONS.

Alcohol Prevents Removal of Wastes.

Ethyl alcohol in the blood interferes with the ripening of the crude materials derived from the food. It diminishes the mobility of the corpuscles, removes oxygen from the haemoglobin, and hinders the elimination of the carbon and nitrogen wastes. Hence the blood becomes laden with crude materials, tissue wastes and tissue poisons. — John C. Cutter, M.D.

Alcohol Injures all the Bodily Tissues.

Alcohol from the stomach quickly reaches the blood, and by it is brought into direct and pernicious contact with the living tissues of the body. — [American Medical Quarterly.

"The sun paints emeralds on the spray, and sapphires on the lake;
A million wings unfold to-day, a million flowers awake."

Alcohol Poisons the Body.

The introduction of alcohol into healthy blood can do nothing but mischief. No one who is familiar with the action of poisons upon the living animal body, has the smallest hesitation in saying that alcohol is a poison. — W. B. Carpenter, M.D.

Alcohol Destroys Red Corpuscles.

Alcohol poisons the blood, arrests development and hastens the decay of the red corpuscles, there being also a loss of power, by a decrease of the vitality in the blood discs, to become red when exposed to the air in the lungs, as well as changing the red blood to purple. — Drs. Virchow and Boecker.

Alcohol diminishes the power of the red corpuscles to transmit oxygen to the tissues. — J. H. Kellogg, M.D.

Alcohol Can not Make Blood.

Alcohol can not be regarded as a food of any kind, and it can not therefore either strengthen or nourish the body. As a consequence there can be no such thing in the true sense as the nourishing stout or ale so ingeniously advertised by brewers; and it is also of course physically impossible for any wine, red claret or other, to "make blood." — Capt. P. W. Gorman, Fellow Royal Institute Public Health.

Alcohol Diminishes the Work of the Heart.

Blood containing one-fourth per cent. by volume, that is, two and a half parts per thousand of absolute alcohol, almost invariably diminishes within a minute the work done by the heart; blood containing one-half per cent. always diminishes it, and may even bring the amount pumped out by the left ventricle to so small a quantity that it is not sufficient to supply the coronary arteries. — N. S. Davis, M.D., F.R.S.

Alcohol Causes Degeneration.

The degeneration of the muscles, heart, brain, nerves, liver, kidneys, and in fact all the organs of the body, is induced by the habitual use of alcohol. . . . Changes in the corpuscles and in the fibrin of the blood take place when not more than one part of alcohol to five hundred of blood is employed. Thus it will be seen that the very weakest wines are unsafe, since none of them contain less than from three to five per cent. Even small beer would be capable of doing mischief in this way. — J. H. Kellogg, M.D.

Alcohol Congests the Blood Vessels.

The primary effects of a moderate dose of diluted alcohol, as a glass of whiskey and water, on one unaccustomed to it, are to cause temporary congestion of the stomach; dilatation of blood vessels of the skin, indicated by the flushed face; a more rapid beat of the heart; nervous excitement, exhibited by restlessness and talkativeness. — H. Newell Martin, M.D., F.R.S.

THE RELATION OF RIGHT IDEAS TO JUST CONCLUSIONS.

"I HAVE not been inside a church for ten years; they made me go every Sunday when I was a youngster, and to Sunday school too, and I said then that when I grew up and could act for myself, I wouldn't go."

Although the above remark does not represent an isolated experience among young men, it would be very unjust to reason from such cases that the teaching of the church and Sunday school are doubtful instrumentalities in the development of the child's spiritual nature. In this instance parents and teachers may not have used the best methods of imparting religious instruction, but more likely the trouble lay farther back in the child's inheritance of an unusually perverse and unresponsive disposition, and in his desire to lay the blame for his own wrong doing upon some one else.

The results that follow religious instruction when poorly adapted to individual cases do not militate against the great fundamental principles of duty to posterity underlying the command, "Thou shalt teach them diligently unto thy children when thou sittest in thy house and when thou walkest by the way and when thou liest down and when thou risest up." Neither do results that follow mistakes in education in other subjects prove it to be unwise to teach those subjects.

A recent editorial in a religious paper refers to certain teachers of that state as questioning the value of the temperance instruction law.

In order to form any right estimate of the value of the opinions of these teachers, we need to know what is their idea of compliance with the spirit and letter of such a law. Investigation shows that these objectors want the subject considered, not from a scientific but a moral point of view, and taught as morals only. Where that idea prevails occasional or periodic exhortation, tiresome and unprofitable alike to teacher and pupil, has taken the place of definite study of the truths the law requires taught. These truths are the facts of personal hygiene and sanitation, including the nature and effects of alcoholic drinks and other narcotics, together with physiology enough to make all intelligible to pupils in the successive grades of the public schools, and when properly taught they impress their own most powerful moral.

Wherever the study is presented in the schools with the same fairness as other branches, pupils are influenced to the formation of better hygienic habits, and to the avoidance of alcoholic drinks and other narcotics. Not every child is saved by this instruction from the consequences of his heredity and environment, any more than by the church and Sunday-school. The trend toward the narcotic cigarette of to-day is the eternal law of consequences following the cups and pipes of the fathers. We can not undo this work of the grandfathers, but we may to-day educate the grandfathers of the future, a majority of whom we may hope to save, and thus help to usher in a glad to-morrow.

THE BIRD'S COMPASS.

Cleaving the clouds with their moon-edged pinions,
High over city and vineyard and mart;
April to pilot them; May speeding after;
And each bird's compass his small red heart.

—Edwin Arnold.

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A FALLACIOUS PLEA FOR ALCOHOL.

WHEN a critic begins to object to the study of scientific temperance in the public schools, the fact is quickly apparent that his criticism rests on his own misconceptions.

A school official in a Western state is reported as saying that he does not believe in cramming temperance down the children's necks every day in the year, as though that is what the friends of this form of education desire. If the gentleman had only studied the subject he would know that a standard had been reached, based on experience in many states, which specifies that three lessons per week for fourteen weeks of the school year through the grades amply cover the topic in question, while the minimum, as specified in some of the laws, is three lessons per week for ten weeks of each year, making only 180 text book lessons in the whole subject of physiology and hygiene including temperance. These lessons are distributed through six years, with oral instruction for all pupils in the three primary years. Furthermore, by this standard and the laws of many states relating to the text books, only one-fourth or one-fifth of the whole subject-matter for primary and intermediate pupils, and twenty pages for high schools, refers to the nature and effects of alcoholic drinks and other narcotics, all the rest being physiology, hygiene and sanitation. Estimated by the average length of lesson in primary schools, this would call for only one and one-half hours per year in distinctively temperance instruction in those grades, and only three hours per year in higher grades, presented in connection with each topic. When thus taught there is an average of four lessons in physiology, hygiene and sanitation to only one in temperance. This certainly is not a daily cramming of temperance, nor an extravagant amount of teaching against the greatest peril our children must encounter.

Never did a nation have a ghastlier exhibition of the need of popular education in hygiene and sanitation than the people of this country faced in the culpable ignorance shown in what Rebecca Harding Davis calls, "the mismanagement of the Cuban campaign in quartering troops in malarial swamps at home and feeding typhoid patients on rancid bacon and putrid meat." While more venal causes may have conspired to this result which brings the blush to the cheek of every true American, it is an undeniable truth that if all our officers and their men had had, as a part of their school education, the instruction in hygiene and sanitation which is a legitimate part of a thorough education, many valuable lives might have been saved. So much has had to be said in the past about the distinctively temperance part of this study that enough emphasis may not always have been put upon the subject of general hygiene of which temperance is but a part.

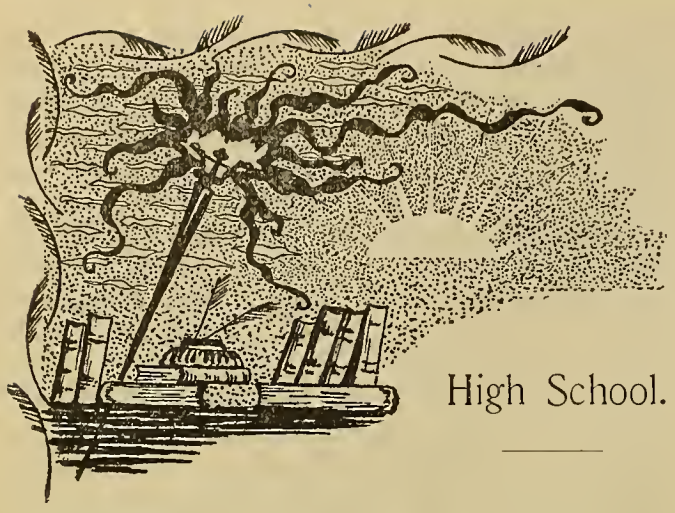
Again, in some circles the criticism of inaccuracy has been passed upon the indorsed books because, in teaching the poisonous action of alcohol on the human system, they do not teach also what these critics claim to be true, that in certain quantities and under abnormal conditions it may exert a beneficial action. This is only saying in another way that the books in question do not teach the medicinal value of alcohol. Of course they do not. The medicinal value of alcohol, whatever that may be, is neither a legal nor a logical part of the subject of which these books treat. It is the nature of alcoholic drinks, that is of alcohol as a beverage, and their effect on health that the law requires taught in the public schools, not alcohol as a medicine. The standard adopted in 1889 for text books on this subject says:

"This effort to disabuse the minds of the rising generation of fallacies which lead to drink habits should purposely avoid reference to the medical use of alcohol, except to state that as by common consent its lay prescription is condemned, the question of its use as a remedy may properly be relegated to medical treatises as out of place and misleading in a school text book."

These critics say: "If you define a poison as a substance that always, in all amounts and under all circumstances, does no good but always harm to the human being, then alcohol is not a poison and the indorsed text books in saying that it is, are not accurate."

These books do not thus define a poison. On the contrary, with Prof. H. Newell Martin, M.D., F.R.S., they say: "Alcohol is a poison which tends to injure nearly all the organs of the body." According to this definition, alcohol, like arsenic, strychnine and opium, is classed as a poison by the greatest authorities the world produces.

Because arsenic, strychnine and opium are sometimes used as medicines, no one has ever claimed that these substances are not therefore poisons, and it is special pleading to make such a claim for alcohol.



High School.

PRACTICAL QUESTIONS ANSWERED.

SOME one has said that we live well only as we daily and momentarily die well. The leaves which fall from the trees in October give back their elements to the air and soil from which they came, and under the marvelous touch of mother Nature convert these primal atoms into the soft foliage of another spring. They die that they may be born again in greater luxuriance and a larger growth. Man too is continually putting off the old garments of a worn out vitality and reappearing in new strength and vigor. With him the process is repeated with every breath he draws, with the conversion into energy of the food he eats, and with every movement of his active frame. The debris must be removed or the fire of his vigor burns low. The very complexity of the human excretory system shows its vital importance. Man has not one means only of disposing of bodily waste but four, and perfect health demands that skin, lungs, kidneys and intestinal canal be kept free from obstruction and in perfect condition to perform their functions.

The hygienic side of this question should be clearly set forth to all young people until they realize its relation to their own well being. They should know also that in no other way are these delicate parts of their organism more quickly injured and incapacitated for the proper observance of their functions than by the use of alcoholic beverages and tobacco. The question answered this month by the scientific authorities quoted below, should be considered in all its bearings by high school pupils. Begin with a careful study of the physiological structure of the different organs of excretion and their fitness for the work required of them. Devote one or more lessons to the study of their general hygiene, noting especially the relation of proper food, dress, exercise, bathing, and regular hours for work and rest, to the health and strength of each. Then consider the effects of narcotics, finding from text books and other available sources the true nature of the poisons tobacco and alcohol, and the injuries which they have the power to inflict upon both the structure and work of the excretory organs.

In this age when competition along all lines is so keen, young people need to lay greater emphasis than ever upon health. Teach them by precept and example that it is the only standard of wealth, individual or national.

How Do Alcohol and Other Narcotics Injure the Organs of Excretion?

1. By giving them an undue amount of work to do.

Cold baths increase the absorption of oxygen and the elimination of urea and other toxic elements, while alcohol just as certainly tends to diminish the absorption and internal distribution of oxygen, and lessens the elimination of urea and all other toxic agents. — [Jour. M. T. Ass'n.

Alcohol prevents the waste materials or excreta from leaving the system; it may also affect the power of the blood for carrying these waste materials in solution. It is found that alcohol increases the amount of urine secreted. But this urine is deficient in solid matter, which means that something is left behind in the system. Beer and wine, because they contain lime salts, are said to cause rheumatism, or at least to aid in its development. These salts are absorbed into the system, united with the uric acid and form an insoluble urate of lime which is deposited around the joints, thus causing them to become enlarged and stiff. — Chas. H. Shepard, M.D.

During the presence of alcohol in the system there is an actual reduction of temperature, a diminution of the amount of carbonic acid gas exhaled from the lungs. Instead of the bodily forces being exhilarated, they show a corresponding depression, and this in direct proportion to the amount of alcohol taken. — C. H. Newman, M.D.

Under the influence of alcohol there is a diminished output of carbonic acid gas, and this is due, certainly in part, to the action of the drug on the red corpuscles. Spectroscopic experiments by Dr. Kales have shown that the affinity of haemoglobin for oxygen is reduced by alcohol, and this must affect vital action throughout the body. — [Medical Pioneer.

It is utterly impossible for the amount of nicotine inhaled by an ordinary smoker to escape without a large amount of its impurities finding lodgment in the system. What is called the tonic effect, but which should properly be called the toxic or poisonous effect, which it has upon the nervous system, is necessarily followed by the reactive condition. This re-

peated continually tends to lower the vital reaction of the individual, and impairs the functions of every organ of mind and body, so that in an emergency one is not capable of as much vital resistance to pathological environment as if he were in a normal condition. The deterioration of the general health renders every part of the body liable to disease. The users of tobacco are deluded by the apparently invigorating effect, which is nothing but a wasteful vital action. The living system acts upon the drug to get rid of it, just as it acts to expel the noxious waste matters in the system. All abnormal action is disease, and all disease is wasteful of vitality precisely in the ratio of its violence and duration. Vitality once lost can never be regained.—Chas. H. Shepard, M.D.

2. By unfitting them to do their work.

The habitual use of distilled liquors, wines and brandies, injures the stomach, liver and kidneys; the respiration suffers and skin diseases take place.—Chas. H. Shepard, M.D.

Alcohol applied to the skin is an irritant, and if persisted in will cause ulceration of the skin.—[Journal of Hygiene.

Alcohol is bad both for beauty and comeliness of person. The face is greatly disfigured by it, both in regard to form, feature, and complexion. It makes the features coarse, the skin unduly red, unsteadiness in facial feature, and in time undue size and form of the body at large.—Sir B. W. Richardson, M.D., F.R.S.

Sore throat, so-called colds, passive pneumonia, glandular disturbances and ulcerative lesions are ever present menaces which belong to the servant of the alcohol habit. Moreover, it may be claimed that chronic bronchitis is an almost invariable accompaniment to the vanities of the drunkard's cup.—Dr. E. G. Hope.

The effects of drink show themselves in the respiratory organs, the heart, the kidneys, or the nervous system.—M. Joffrey, M.D.

Inspiration is essentially a muscular act, and as such would be seriously impeded by nicotine. But even further than this must act the irritating substances of a smoke which readily causes inflammation and soreness of any mucous membrane. Now, to fully expand the lungs under such conditions is uncomfortable, if not impossible, and respiration degenerates into an incomplete act.—J. W. Seaver, A.M., M.D.

The use of alcohol is found to be followed by a diminution of the carbon dioxid and all waste elimination.—T. D. Crothers, M.D.

Alcohol in any dose capable of producing an appreciable effect, diminishes the function of the lungs in direct proportion to the quantity taken.—N. S. Davis, M.D., F.R.S.

"Their starry cups the cowslips lift,
To catch the golden light."

The kidneys are undoubtedly irritated during the elimination from the system of the ingested alcohol and its irritating compounds.—J. H. Thompson, M.D.

Alcohol causes kidney disease in several ways. It unduly excites the activity of the organs; by impeding oxidation it interferes with the proper preparation of nitrogen wastes which are brought to the kidneys in an unfit state for removal; when more than a small quantity of alcohol is taken, some of it passes out of the body unchanged through the kidneys, and injures their substance.—H. Newell Martin, M.D., F.R.S.

A physician notoriously stupid from spirits said: "I am poisoned from kidney disease. Put me in a hot bath, and purge me," then relapsed into a delirious state. The next day he died, and his advice was found to have been true.—[Journal of Inebriety.

Tissue waste is necessary to the well being of the living organism. Constant molecular change must occur in living tissue, the dead, effete matter being removed to make room for the new living tissue which rebuilds and strengthens the system; therefore alcohol as a food saver is like a man who rebuilds his sidewalk with rotten plank.—M. Willard, M.D.

AMERICAN CIVILIZATION.

IX. Oriental Influence.

Jews.

IN the exiled Russian Jew is found the future representative of the race in America. Elevated by the influences of modern civilization above the narrow teaching engendered by centuries of inhuman restrictions and residence in Ghettos, he will rise—socially and intellectually—the peer of his fellows in all that tends to advance culture and promote the weal of humanity.—Henry Samuel Morais.

Though most of the Jews in America come to us directly from European countries the race still retains marked Oriental characteristics, and hence we study them in this connection.

It is entirely natural that the Jews of Russia and Eastern Europe, after the unspeakable persecutions of 1881, should have fled to America. Jews were no strangers here as far back as the early settlement of New Amsterdam. But most of these earlier comers are already amalgamated and constitute no longer a part of our immigrant problem. Before the beginning of the present century there were Jewish colonies in Baltimore, New Orleans and other large cities, the most prominent being the one in Philadelphia. Here in 1781 Rebecca Gratz was born. The story of her beauty and benevolence is still cherished among the faithful. Miss Gratz organized the first Hebrew Sunday school in the United States and was a leader in all charity work. She reckoned among her friends such men as Henry Clay and Washington Irving, and Sir Walter Scott made her the heroine of his famous novel "Ivanhoe."

The New Orleans colony of Jews is represented in history by the Hon. Judah P. Benjamin, secretary of state in Jefferson Davis' cabinet, and often called the "head of the confederacy." He was one of the most eminent lawyers this country has produced and late in life won an enviable reputation at the London bar.

"Jews have shown themselves loyal Americans both in peace and war. A considerable number of them are to be found in the volunteer regiments. . . . . Some of the most honored names in the history of our country, especially in recent years, are Jewish names. They are found in the fields of statesmanship, literature, art, business and philanthropy. They have won for themselves and their people a recognition and respect in America as great as in any country in the world."

Perhaps the most encouraging feature of the subject is the self-helpfulness of the Jews. Hospitals, homes for the aged and infirm, orphan asylums and charity organizations are almost without number, and the business-like way in which they are conducted is a practical illustration of the peculiar Jewish ability in financial matters. About two million dollars have been expended by Hebrew relief associations in the work of receiving and distributing throughout the United States the Russian Jewish refugees. "Many were the animated and picturesque yet pitiful scenes afforded by the arrival of these down-trodden and persecuted Jews and of their being cared for by thousands of their co-religionists of America." Though it seemed at first as if the Russian Jews could not be assimilated into American life, the event has proved that at least a fair proportion of them, and practically all their children, are rising into citizenship.

Friday morning market in the Jewish quarter.

The most earnest effort was directed toward

withdrawing these immigrants from congested quarters and distributing them in agricultural sections. But in spite of all this good work hundreds of thousands of the race are herded together in indescribable wretchedness and degradation. The sweater and the sweat shop hand are recruited from their ranks. The task of uplifting them is the greater when it is remembered that these immigrants have come to this side with strange language and manners, without trade or knowledge that can be adapted for use. But such is the thrift and energy of this despised race that already the immigrants of 1881 are beginning to assist their fellow countrymen. The many trade schools, industrial institutions and free Hebrew schools established by Jews in the United States are co-operating splendidly with our public schools to make the next generation intelligent, right-minded and self-supporting.

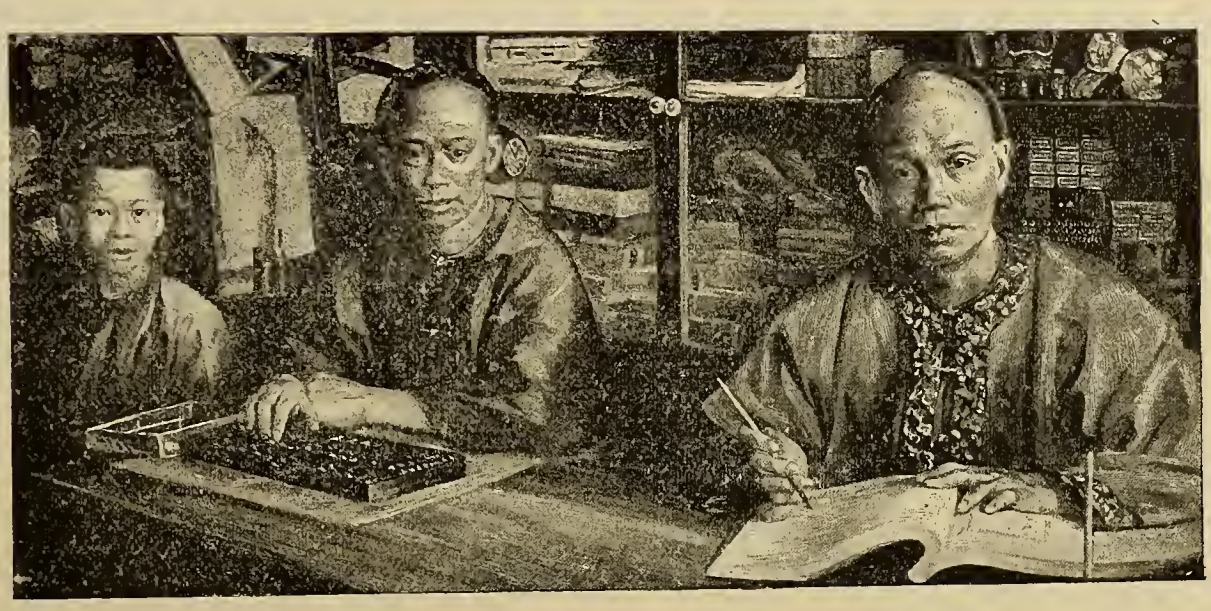
"The poorest Hebrew knows—the poorer he is the better he knows it—that knowledge is power, and power as the means of getting on in the world that has spurned him so long, is what his soul yearns for. . . . . Day and night schools are crowded with his children who keep fairly abreast of their more favored playmates till it comes to mental arithmetic, when they leave them behind with a bound. It is surprising to see how strong the instinct of dollars and cents is in them. They can count correctly almost before they can talk."

The horrors of the sweat shop have already been affected in some slight degree for the better by labor organizations. The Jew's own temperate habits, love of home and family, and a pure religion have done much more.

"It is the patriarchal family life of the Jew which pilots him safely through shoals upon which the Gentile would have been inevitably wrecked; it is that which keeps the almshouse from casting its shadow over Ludlow street to add to its gloom; it is the one quality that redeems; it dignifies the darkest slums of Jewtown."

CHINESE.

"A mirage of Turanian civilization, a shadow



Types of Chinese Accountants.

of the past projected upon the present, a frontispiece out of the book of life—this and more is the Chinese quarter of San Francisco. There thirty thousand souls are gathered. They silently and impurturbably pursue their mysterious ways, supremely indifferent to all that hems them in; men they seem not, but shades, 'all too impalpable,' from the deep Tartarus of Time."

Last but not least of the factors in our composite national life is the resident alien. That he is and will remain to the end of his days an alien whatever our statute book may decree is fairly certain. Oriental in every fibre of his being, in dress, in habit of life, and in cast of thought, he is intrenched behind a conservatism that renders it impossible for him in one lifetime to become a European, to say nothing of going a step farther and becoming an American.

We may look for great things from China in the future—one enthusiastic missionary even calls the race the Anglo-Saxons of the Orient—but not from the Chinatowns of our American cities. The gulf is too wide to bridge at a leap.

The last half century has witnessed the arrival of the Chinese in the United States almost to a man. There is no more variety in their motives for immigration than in their dress or behavior. The contract labor system which brought such disaster in its train is responsible for the importation of thousands into this country. Though at first they worked for a pittance it was more than the highest wage they could

command at home and they were content for the time. Acquisitiveness, which is so strong in the Jew, is no less a prominent characteristic of the Chinese. The average Chinese laundryman in this country has a respectable bank account, and why should he not have? Work seems to be his absorbing passion and he has quickly taken advantage of the fact that his labor would command a higher price than at first he dared to ask.

"There is no longer any such thing as cheap Chinese labor. A Chinese laundryman earns from $8.00 to $15.00 per week, and his board and lodgings; a white or colored laundress from $4.00 to $10.00, without board or lodgings. Other laborers clamor for an eight hour day; the Chinaman works seventeen hours."

He lives upon almost nothing. Rice and a few other simple vegetables compose his diet; meat he seldom or never eats. His average expenses for board and lodgings are estimated by those familiar with the subject at not more than $5.00 per month. He can live without apparently minding in the least conditions which no American would tolerate over night.

"The official map of Chinatown in San Francisco designates 13 large joss houses, 2 theatres, 16 opium dens, 110 gambling hells, 246 manufactories, innumerable restaurants and shops, and 30,360 souls — in twelve city blocks!"

Thus by unremitting labor and painful economy the Celestial acquires that for which he came so far — enough money to make him well to do for the rest of his life at home in China, whither it is his ambition to repair. His sojourn here among strangers who do not understand him, and of whom he is constantly suspicious, is merely an incident. Ten to one he retains the queue, his badge of allegiance to the Manchu dynasty, and — pathetic tribute of the home-sick heart — gets his bones sent back to China as their final resting-place.

Whatever vices the Chinese may have drinking is not one of them. An intoxicated Chinaman is as rare as a drunken Jew. His besetting sin is gambling. But there is no hubbub and no disturbance about it all, and no dirt. It is not by accident that the almond-eyed Mongolian chose laundering as a business.

That other Chinese vice — opium-smoking — is too well known to need proving, and the pity of it is that the attendant moral and physical degradation are not even most pronounced in their own race.

"There are a good many more opium joints outside of Chinatown than in it. . . . The Chinaman smokes opium as Caucasians smoke tobacco, and apparently with little worse effect upon himself. But woe unto the white victim upon whom his pitiless drug gets its grip."

There is a still darker side to life in the Chinese quarter of our great cities, especially in California. A writer in a recent number of Frank Leslie's Weekly says:

"People who imagine that slavery ceased in this country when Lincoln signed the emancipation proclamation should go to San Francisco. There they may see a slavery more degrading and sorrowful than that ended in the South. . . . With every year the traffic in Chinese slave girls grows in that city of the Golden Gate."

On the other hand no other immigrant to this country has established and deserved such a reputation for honest dealings as this one. A Chinaman's word is as good as his bond anywhere. He expects the same fair dealing in return from Americans, and to our shame be it confessed, he is often disappointed. He is abused, and reviles not again. He does as he is told, and says nothing. He is generous to a fault with his friends, and beautifully conscientious about caring for those dependent upon him, even to distant relatives in China. He looks after his own poor in America, and pays his bills as he goes along. These are virtues which vices have not eclipsed, and shining examples to so-called better men.

The Chinese are a proud people. They ask neither our help nor our sympathy. They are likewise an exclusive people, and it is for this reason mainly that they are so difficult to Americanize.

The Chinese stand alone among those who have cast in their lot with Americans, from the fact that neither they nor their children have entered our institutions for advanced learning, or attained individual distinction among us as leaders of men, or contributed wealth or culture or learning to our national life. Mr. Jacob A. Riis, that thoughtful student of social problems whom we have already quoted, says:

"Rather than banish the Chinaman, I would have the doors opened wider — for his wife. Make it a condition of his coming or staying that he bring his wife with him. Then at least he might not be what he is now and remains, a homeless stranger among us. Upon this hinges the real Chinese question. . . . From any other form of dissipation than that for which Chinatown stands there is recovery, for the victims of any other vice, hope. For these there is neither hope nor recovery; nothing but death — moral, mental, and physical death."

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JUN 7 1899

The School Physiology Journal

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School Physiology Journal

Vol. VIII. *BOSTON, JUNE, 1899.* *No. 10.*

JUNE.

THE bobolink has come, and like the soul
Of the sweet season vocal in a bird,
Gurgles in ecstacy we know not what
Save June! Dear June! Now God be praised for June!

LOWELL.

A JUNE HARMONY.

A BIRD in the bough sang "June,"
And "June" hummed a bee
In a bacchic glee
As he tumbled over and over
Drunk with the honey-dew;
Then the woods took up the tune
And the rippling runnels too,
The tune of the bird that sang in the tree
And the bee that buzzed in the clover.

And "June" cried the leaves in time,
Till crickets at night
With a wild delight
Sang "June" to the moon down beaming,
"June" to the moon and stars;
And the grasses seemed to chime
With the music's mellow bars,
While butterflies danced with airy flight
In the sun-light amber-gleaming,
And the flowers were glad that swayed
In the breeze whose tune
Was forever "June."

CLINTON SCOLLARD.

Summer. Burne-Jones.

AN IDLER'S SONG.

HO, when the Summer comes
With his wild lure-song
Low-cadenced, wizard-strong,
With his cup of berry-juice
That sets the springs of joy aloose—
Shall I not hear his song?

I shall idle, hear it all—
His song in the bird-notes, and in the winds of dawn.

Ho, for the Summer's time!
Have a care for his wander-rhyme.

You'd be surely fey, cold mother Winter,
Stay behind your gate!
You would lose the way, for mosses
Hide the pathway from your gate!

Come, Summer! finer tales,
Older, larger-circled ones;
All your last were silver-tongued,
Now give me gold.

Whisper now, I'm listening;
Croon when I go to sleep,
Laughing, lovely Summer eyes,
I'm in your glamour's fold!

ANNE THROOP.

LIFE.

"THE limit of life is brief—
'Tis the red in the red rose leaf,
'Tis the gold in the sunset sky,
'Tis the flight of a bird on high.
Yet we may fill the space
With such an infinite grace
That the red will vein all time,
The gold through the ages shine,
And the bird fly swift and straight
To the lilies of God's own gate."

CAPTAIN ALFRED E. HUNT.

"A woman's heart had need,
And from the great unknown,
In tiny form, came newly in
A soul keyed to her own.
With her from child to man,
In comradeship he grew;
And then the world had need
Of honor, trained and true.

"His country called in need,
And on the muster-roll
His name at once went down,—
'Twas Duty called his soul.
And still they all have need,—
The woman, world, and all;
But his keen ear has heard
A higher muster-call.

"'Tis the Master now hath need."

ON opposite sides of the main hall leading to the British House of Lords are the pictures of two scenes in English history that occurred more than two and a half centuries ago, but which are full of interest to Americans to-day because they represent the beginnings of that national life of which we are a part.

One of these pictures represents the embarkation of the Pilgrims for the wilds of America. In this little company was the young cavalier Edward Winslow, of ancient English family, who while traveling in Holland in 1617 was converted to the Puritan faith under the preaching of John Robinson in Leyden, and came to this country on the Mayflower in 1620.

Education and natural endowment fitted young Winslow for the services he rendered the Pilgrims. He ministered to their sufferings, represented them later as diplomat at the Court of England, and afterward served as their governor until his death.

The other picture shows the expulsion of the Puritan students from Oxford because they would not submit to the ecclesiastical dictation of Archbishop Laud. Among those who rebelled at this dictation was one Thomas Thacher who later came to this country and became the first pastor of that famous church militant, the Old South of Boston, where some of the most stirring events were enacted prior to the war of the Revolution and the Declaration of Independence.

From the marriage of a granddaughter of this cavalier Pilgrim, Edward Winslow, to a descendant of the liberty-loving Thacher preacher, has come a long line of people who have been identified with the history and development of this country. In earlier days descendants of this line filled important pulpits in and about Boston, helped to found Harvard College for Christ and the church, secure our national independence, defend the religious faith of the fathers, and later, to develop the resources of this new land and to maintain important moral reforms.

The subject of this sketch, Captain Alfred E. Hunt, born March 31, 1855, in East Douglass, Massachusetts, the son of Leander B. and Mary H. Hunt, was on his mother's side a direct lineal descendant of this Thacher-Winslow marriage; and on his father's side of a family that has produced men of affairs since the days when their ancestor, William Hunt, came to this country from England in 1635, and settled in Concord, Massachusetts.

As a child, Alfred Hunt early developed the characteristics which marked his career in manhood. His was a strong, buoyant, but reverent and loving nature, marked by intellectuality, native courtesy, and that high sense of honor which despises a mean act.

When not more than eight years old, on being taunted by a group of boys with being afraid to go to the woods to play after school, an unseen by-stander said: "He straightened up and flashed back upon his would-be tormenters the reply, 'I would n't be so mean as to go without asking, and leave mother to worry about me. If you will, I won't.' And he started on the run for home."

His earliest recollections were discussions of the events which led to the war of the Rebellion that burst upon the nation when he was six years old. Its tragedies filled the first newspapers he remembered reading. Mimic battles with rebel soldiers and gun boats, which were always beaten by Union men flying the stars and stripes, became his childish sports. His boyish heart was fired by the sight of young volunteers from his native village marching away to war to save the Union. Thus the patriotism was nourished to which he gave his life at last.

When twelve years old his studies and amusements in classifying the insect life in the fields about his suburban home in Hyde Park, and his experiments with electricity in connecting his room with that of his playmates by telegraph wires, foreshadowed the coming scientific man. In the Roxbury High School he prepared for his four years successful course in the Massachusetts Institute of Technology from which he was graduated in 1876 as a metallurgical chemist and mining engineer, receiving the degree of Bachelor of Science.

To his profession he devoted himself with characteristic energy. He had a broad, strong grasp on whatever he undertook. Said one who knew his methods of work: "Although he was quick to gauge the importance of a subject, whether in science, business or military matters, he never acted until he had before him everything that could be found out about that subject. Then his decisions were immediate, and time invariably proved them accurate. If he saw farther than other men it was because of

his knowledge of relative facts. He had a genius for collecting data."

A metallurgical journal says: "He always had on hand two or three great projects, any one of which would have been enough to absorb an ordinary man. His traveling companions in Europe wondered at the number of men he knew, and at the readiness with which he launched into the subject upon which a new acquaintance could give him information."

In referring to his life work a Pittsburgh paper says:

"For some time following his graduation he was connected with the United States geological survey, and with private corps making topographical and railroad surveys in the West. His specimens of Michigan iron ore, brought to Boston and analyzed, led to the first report of the Michigamme mines, the first and finest strikes in the wonderful iron fields of Northern Michigan and Wisconsin. From 1877 to 1879 he was manager and chemist at the Nashua, N. H., open-hearth steel works. Later he removed to Pittsburgh, and formed the firm of Hunt & Clapp, establishing the Pittsburgh testing laboratories for physical and chemical testing of materials.

CAPT. ALFRED E. HUNT.

"This firm have since inspected the greater number of important metal structures erected during the last fifteen years, including bridges over the Mississippi and Missouri rivers, and the bridge across the Hudson at Poughkeepsie.

"In 1888 Captain Hunt organized the Pittsburgh Reduction Company, to manufacture aluminum according to the process discovered by Charles M. Hall. Hitherto it had sold for fifteen dollars a pound, a price that classed aluminum with the precious metals, but as produced by the new firm it was so reduced in price that it is now used for a great variety of commercial purposes. Since the organization of the company Captain Hunt has been its president and general manager, and to his energy, judgment, skill and enterprise the growth of this industry must be attributed. His name is associated for all time with the artificial production of the metal which scientists declare will be so widely used as to bring an aluminum age. He also gained high reputation as an authority on engineering, metallurgy, and chemical analysis, and was frequently summoned to the courts to give expert testimony.

"The manufacture of aluminum may thus be considered the fourth epoch-making enterprise in which Captain Hunt was identified. The others were the opening of the Michigan Iron mines, the adoption of the open-hearth process in steel manufacture, and the establishment of commercial testing laboratories. Scientific and engineering societies in this country and Great Britain have recognized his services by conferring upon him official positions in their respective organizations. He was connected with the American Institute of Mining Engineers, was a fellow in the American Society for the Advancement of Science, and member of the American Society of Civil Engineers.

"At the World's Columbian Exposition, in competition with experts from all the world, the Norman gold medal was awarded him for the best paper on engineering. He was also an honored member of the American Society of Mechanical Engineers, the American Chemical Society, the Iron and Steel Institute of Great Britain, and the Institute of Engineers of Great Britain, besides being the author of many valuable works on scientific subjects.

"Capt. Hunt had a military career of which many men grown gray in the service might well be proud. He had seen service not only in the state militia of three different states, but in the United States army as well." In the midst

of his crowded life of study and business as a metallurgical engineer of world-wide reputation, he organized and commanded for nearly fifteen years a division of the National Guards of light artillery in his adopted state. In the drill and summer camp excursions of this artillery his martial spirit found expression. There had never been a time in his whole career when the emergencies of the varied enterprises he had in hand demanded his constant personal attention more than when the war with Spain broke out. It was that supreme surrender to duty which puts the call of country before personal interests, before the tenderest family ties, before life itself, that led him with his battery to be among the first in the field for the emancipation of Cuba. He was a born leader of men, with the unselfishness and personal magnetism that win for such leadership an affectionate and loyal following.

"Equal to the best artillery in the regular army," was the verdict of old army officers of the efficiency of Capt. Hunt's command. As a military officer and as an employer he was firm but kind, always respecting the personal rights of his men. He never said "Go," but always "Come," as he led in danger and privations that must be faced to secure the high ideal which he always demanded.

From Chickamauga he wrote: "In the army reorganization they have left me without a chaplain, but I am holding religious services with my men every Sunday morning, which I believe are a help to us all. To-day I have been able to secure the services of a clergyman, the chaplain of an Indiana regiment, who has administered to us the holy sacrament. Our gun carriages were our communion tables; the interlacing branches of trees formed a vaulted canopy above our heads. As we knelt on the soft earth participating in this sacramental scene, an orderly rode up with a message that indicates we shall soon be called to the front.

"The text, with which I used to fortify my childish courage, 'Whoso putteth his trust in the Lord shall be safe,' fits as well the needs of the soldier fighting for the liberty of his fellow men, as it did the child. I know that the promised safety may mean one thing for me or it may mean another, but whatever it shall be, it will be well with my soul."

"Captain Hunt had physical courage," said one of his men. "Where others lost their heads, he comprehended the situation, was collected, and inspired the men he commanded with his own courage and loyalty to duty. He was an intrepid leader."

At Porto Rico, with his men and battery he was three times under the enemy's fire; first when their transport ship went on the reefs just off the coast of the island; second when landing, and again when they were building a bridge to cross a cañon.

Battery B of Pennsylvania at the head of the American troops facing the enemy, who stood on higher ground, with Capt. Hunt beside Gen. Brooke ready to give the order to fire just as a breathless rider rushed up shouting: "Stop action; the protocol is signed, peace is declared!" is the well known scene that closed the Spanish-American war. That war drove Spain from the Western Hemisphere and closed her four hundred years of oppression on this continent which Columbus discovered, and which the Puritans dedicated to liberty.

"Capt. Hunt as assuredly died for his country as he would have done had he been shot in battle," said the attending physicians who gave as the cause of his death, "exposure and hardship during military service at Chickamauga and Porto Rico."

The city of Pittsburgh which went wild with joy when he returned from the war bringing all his men with him, is plunged in grief by his death, their loved and honored citizen. His many friends in this country and Europe, both in and out of engineering circles, stand bewildered, distressed, before the inexplicable calamity of the close of this strong young life which has already accomplished so much for the world, and which promised so much more for the future. Numbers of young men said as they gazed upon his face for the last time: "He was my best friend; he gave me my first start in life."

In the Spanish war, as in science and business, present detail never obstructed his vision of great underlying principles; obstacles to him were only things to be overcome for the goal sought. Probably no man in the war had a clearer vision of its real object. "It was our destiny," he said. He saw that we had, as Kipling puts it,

> "To seek another's profit
> And work another's gain."

Only a few days before he died, in reply to the question: "Were the Cubans, Porto Ricans and Filipinos worth the sacrifice of our noble American soldiers?" Capt. Hunt replied:

"I do not look at the subject from that standpoint. The verdict of history will show that the Spanish-American war was for the advancement of the principle of human freedom for which our nation stands. For such a principle, every true American should be willing to sacrifice, if need be, life itself." For this he gave his life.

"The world of science held him in high respect and mourns his early loss. The Massachusetts Institute of Technology, his alma mater, regards him as one of its most honored

and honorable graduates," says one of the professors of that institution.

Said an army officer, Gen. W. J. Hulings:

"In the death of Capt. Hunt not only Battery B, not only the city, state and country, but the entire world loses a man who made the world much better for his being in it. Mindful of others before himself, he made himself a martyr for his country. He was the noblest piece of humanity I ever saw, and I feel his loss very keenly because I knew and admired him as a soldier, a citizen and a man."

The business world has lost a man of marvelous executive ability and untarnished business honor, who could say without fear of contradiction: "In business I have never been guilty of a mean, selfish act that alone with my conscience I am ashamed to review." His determined spirit in behalf of fair and just dealing with employees by employers in the payment of a "living wage," can not fail to leave a lasting impression.

Rev. Joseph Cook, LL.D., who has known of his career from his student days, writes to the bereaved mother:

"I think of Edmund Burke's son, over whose early departure the father made such moving lamentations; and of Arthur Hallam, for whom Tennyson built in "In Memoriam" a monument more enduring than marble; and of Lord Howe, who fell here at Ticonderoga in his early manhood; and of Warren, who passed away in the Bunker Hill battle; and of scores of others who have departed with careers apparently unfinished. Among them all, I am sure there was no nobler soul than your own son. What a heroic record he made for himself in the Spanish War! Not a man lost out of his regiment by the exposure to the tropics; not a drop of liquor sold by his permission to his men. The American army will never forget his example. He gave financial as well as moral support to the great cause of Scientific Temperance Instruction. Who can take his place? I ask myself what Providence means in this mysterious dispensation of distress. In the cathedral that God builds there are no broken columns. We are all in God's hands; he has a kind heart."

As a son, a husband, and father his domestic life was ideal. Although the loss sustained by the mother, wife, only child Roy A Hunt, and other relatives who are left can not be measured, they look expectantly forward to a happy reunion in the land where there are no severed ties.

"Nature in her far-off glen
Flutes her soft messages to men."

BOOK NOTICES.

CHILD CONFIDENCE REWARDED: by Dr. Mary Wood-Allen. Wood-Allen Publishing Co., Ann Arbor, Mich. Price 10 cents.

In this little book of twenty pages, Dr. Wood-Allen follows up her previous work by showing the practical results of teaching the truth to little children in regard to the origin of life. The knowledge which they get in this way from the right source, instead of marring their innocence, builds up for them a defence against evil, develops many pretty tendernesses in the family life, and establishes an exquisite confidence between mother and child which is his best guarantee of safety.

COURSE OF STUDY FOR THE COMMON SCHOOLS OF ILLINOIS: Revised by a committee chosen by the county superintendents' section of the state teachers' association. C. M. Parker, Publisher, Taylorville, Ill. Price 15 cents per single copy.

This course is a helpful guide to any public school teacher. The physiology courses which it lays out are very fully and carefully outlined. Each year through the first in the high school a place is made for this study. The teacher who teaches according to this schedule and the law of the state, will help to secure a future of intelligent sobriety to the childhood of that state.

WHAT PHYSICIANS THINK OF ALCOHOL AND TOBACCO.

TEN drinker-families had in twelve years 57 children; of these, 25 died in the first weeks of life. Only 10 out of the 57 showed through youth normal disposition and development of mind and body. Ten temperate families, observed during the same time, had 61 children; of these, five died in the first weeks; 81.9 per cent. were normal in every way, developing well in mind and body.—[Medical News.

The stomach inflamed by alcohol is often attacked by gastritis which ends in atrophy of the pepsine glands, rendering digestion impossible. In the intestine its deleterious action continues. In the liver it produces cirrhosis, transforming it into a kind of stone. In the circulatory system and the heart it alters the muscular fibres, and engenders special cardiac diseases. In the lungs it provokes tuberculosis. On the nervous system alcohol acts most energetically, and every one knows it is the cause of half the cases of madness.—[British Temperance Record.

Alcohol in even relatively moderate quantities, irritates the kidneys, so that the exudation of leucocytes and the formation of cylindrical casts may occur. It also produces an unusual amount of uric acid crystals and oxalates, due to the modified tissue changes produced by the alcohol. The effect of a single act of over indulgence in alcohol does not last more than thirty-six hours, but it is cumulative under continued use.—N. S. Davis, M.D., F.R.S.

When there is prolonged use of tobacco the bad effects are disclosed in the optic disc, which is the end of the optic nerve, readily seen in an examination of the fundus of the eye, and which is the only large nerve that is laid bare to ocular observation. There appears to be less irritation of the brain structure and the motor nerves than of the sensory nerves, but the power of fine coördination is decidedly lowered by the drug.—J. W. Seaver, A.M., M.D.

If the whole period of physical growth be divided into seven or eight year periods, according to the physiological phases of our development, we should have the third period, devoted to the rounding-out processes, begin at about the time when the most strenuous mental application is begun, and when the opportunities for outdoor recreation are decidedly curtailed. It is at this period that the tobacco habit usually is begun, if it is begun at all. This is the period of the development of high muscular coordination, and it is well to note that in mental processes it is the period of the development of the logical faculties. Whether we believe with some psychologists that there is a direct relation between muscular ability and mental power, or not, we must believe that any curtailment of the activity of the great blood-containing and heat-producing tissue (the muscles) must react unfavorably upon the nerve structure, which depends so largely upon outside sources for its material for work, if not for its method of work. — J. W. Seaver, A.M., M.D.

Those who have injured themselves with alcohol show less power of resistance against influences unfavorable to health, and are carried off by diseases which other people of the same age pass through safely—especially in cases of inflammation of the lungs.—Birsch-Hirschfeld, M.D.

If the ordinary ethylic alcohol is taken into the living stomach undiluted and absolutely pure, it acts directly upon the tissues with which it comes in contact as a destructively corrosive poison, and speedily destroys the life of both vegetables and animals when brought in contact with them. When largely diluted with water, as it is in the various fermented and distilled liquors, and taken into the stomach, it is rapidly imbibed, without change, and carried directly into the blood, and with it into every tissue and organ of the body, as it has been demonstrated by the application of reliable tests many hundred times. More or less of it also soon reappears in the excretory secretions and eliminations of the lungs, skin, and kidneys, like other foreign or non-assimilable materials. —[Medical Pioneer.

Dr. Foster, in his physiology, speaks of the influence of nicotine on the nervous tissues, especially on the vagi, thus allowing the heart muscle to wear itself out. With this information we can easily understand how, in the beginning of the habit of smoking, the influence of nicotine causes so much disturbance to the circulation, for the vagus is the great controlling nerve of the heart, and that organ first given obvious response to the poison. — J. W. Seaver, A.M., M.D.

TO AN ORIOLE.

How falls it, oriole, thou hast come to fly
In tropic splendour through our Northern sky?

At some glad moment was it nature's choice
To dower a scrap of sunset with a voice?

Or did some orange tulip, flaked with black,
In some forgotten garden, ages back,

Yearning toward heaven until its wish was heard
Desire unspeakably to be a bird?

Edgar Fawcett.

Primary Lessons

REVIEW WORK.

THE aim of all education is two-fold; it seeks to equip the child for winning his own way in the world, and to make him a useful member of society.

Health is the first essential to his success either socially or as an individual, hence he should be taught the simplest facts of personal hygiene as soon as he is able to understand them and to act upon the knowledge thus acquired.

The physiology topics for primary pupils given in the September number of this magazine form an excellent basis for work of this kind. If each has been developed with the children as fully as the various lessons which have appeared during each succeeding month, the review work of the year will be comparatively easy. The most important points to be touched upon are suggested in the questions given below. It is hoped they will be found helpful to the busy teacher. Quotations from the most eminent authorities are printed in connection with each list of questions, and from these may be deduced the latest findings of science regarding the effects of narcotics upon the human system.

FIRST YEAR WORK.

Why do we need to sit and stand perfectly erect?

What can we do to help our bodies grow?

What grains do we use for food?

Why is beer not a food?

What poison does it contain?

How does beer hurt those who drink it?

What drinks help us to grow and keep us well instead of hurting us?

What are the parts of our bodies which keep us alive?

Which parts do we use in working and playing?

What parts tell us about color, sound, food, odor, shape, size?

How can we take care of our bodies?

In what ways is tobacco likely to hurt our bodies?

How do cigarettes interfere with good work? with play?

Why does the manly boy never touch tobacco?

AUTHORITATIVE QUOTATIONS.

There is no better way of interfering with the growth and development of body and mind in lads and lasses than by giving them alcoholic liquors. Boys and girls never want these things if they never begin them, but if begun, a craving is speedily developed which may ruin them in after life.—[Medical Pioneer.

The real food value of beer is easily demonstrated by the weakness and feebleness which overtake those who take it to the neglect of real food.—[British Medical Review.

Hard work and excitement, even under most favorable circumstances, can be borne far better by men to whom no alcohol is served out, than by men of whose rations alcohol forms a part.—G. SIMS WOODHEAD, M.D.

Wine, cider and beer are never hygienic; they are always toxic and the more so the more alcohol they contain.—PROFESSOR DEBOVE.

Alcohol in every form is a poison, the rapidity of its effects being largely determined by the degree of dilution in which it is introduced into the system.—J. H. KELLOGG, M.D.

Careful experiments have proved paralysis of the special senses of smell, taste, touch, sight and hearing, after even small doses of alcohol. —CAPT. P. W. O'GORMAN, D.P.H., Cantab.

The use of tobacco by boys in schools is an unmixed evil. It seems to dull the intellectual forces. I have known of one student who had a muddy and leathery complexion, poor physical condition, and sluggish mental action, largely or entirely the result of the excessive use of tobacco.—A. W. HARRIS, Pres. State College, Me.

The manly boy does not take to cigarettes. He has life in him, plays football, does anything but deaden himself with narcotics. The cigarette boy becomes ill when work is laid upon him. He becomes pale, is withdrawn from school, and after a few years of life with shattered nerves he passes away, leaving the place he might have filled to the "deep-lunged children of the fatherland."—DAVID STARR JORDAN, President Leland Stanford University.

SECOND YEAR WORK.

What three things does the food we eat do for us?

Why should we eat at regular hours and not between meals?

Why can not any drink containing alcohol take the place of food?

How can beer be harmful when the grains it is made from are good for food?

What do we learn through sight? through each of our other senses?

How can we help our senses to do better work?

What does exercise do for us? rest?

What parts of our bodies need to be kept clean?

Why is any alcoholic liquor harmful in hot weather? why is it injurious in cold weather?

How do alcoholic drinks affect health and growth?

Why is it hard for boys who smoke to do good work in school?

Why is the cigarette smoker likely to be selfish, and careless of the rights of others?

"What'll I make next?"

Authoritative Quotations.

Beer has been called "liquid bread," but beyond a very small amount which disappears, but has not been proved to be usefully oxidized, it is rejected by the system, and plays the part of a poison, interfering with the normal process of every function.—G. Sims Woodhead, M.D.

Diseases of all kinds are hastened and run a more serious course, often a fatal one, in consequence of the habit of drinking alcohol.—August Forel, M.D.

It has been proved by experiment that alcohol lowers the temperature, and if the man who takes brandy to warm himself has a sensation of warmth, this is but a subjective impression due to the dilation of the blood vessels of the skin.—E. Destrée, M.D.

Alcohol is in every way a deceiver. It fulfils none of its promises. It relieves hunger because it destroys the appetite, and the power to digest food, but it does not nourish the body. It destroys pain by paralyzing the nerves, but it does not remove the cause of the pain. It makes the poor man feel for a brief time that he has boundless wealth, but it leaves him poorer than before. If a man is cold, it gives him a sensation of warmth, but he is actually colder than before. The man who is weak imagines he is strong, while he is really weaker than before.—J. H. Kellogg, M.D.

The stunted growth frequently met with, especially among recruits; the increasing number of weak, sickly children arrested alike in their moral and their physical development; and the increase of crime—all these are to be laid at the door of alcoholism —N. S. Davis, M.D., LL.D.

Alcohol is a poison in the body, and its harmful effects are in direct ratio to the amount taken, and the frequency with which it is introduced into the system. These facts should be taught to every man, woman and child in the country, until they are accepted as undisputed and indisputable facts.—[Medical Pioneer.

Alcohol destroys the body and undermines the health. —A. Baer, M.D., Royal Sanitary Commission, Berlin.

Intoxicating drinks diminish man's power of physical endurance, and shorten the duration of human life in proportion to the quality and quantity of liquor used.—N. S. Davis, M.D., LL.D.

A teacher in New England writes: "When I first began to teach, a certain boy gave much trouble by his smoking. He ceased to grow at eleven and was very small. Within a year he has died of paralysis."

The tobacco habit is injurious to health, to scholarship and to character. It weakens the will, diminishes the power of application, and lowers the tone of thought and feeling. Excessive smokers are uniformly poor scholars.—W. D. Hyde, Pres. Bowdoin College.

No habit of the American people is so destructive to the physical vigor and moral character as the habit of using tobacco.—J. C. Jackson, M.D.

THIRD YEAR WORK.

Why do we need muscles of different shapes and sizes?

How can we get firm strong muscles?

Why are young men in training for muscular sports not allowed any alcoholic liquor?

In what ways is muscle injured by alcoholic drinks?

How do we know that wines and beer can not take the place of food?

How do alcoholic liquors hurt the blood?

In what ways are nerves a help to us?

What parts of the body have no nerves? why?

How can we keep from growing nervous?

What will injure the brain and nerves? How can these organs be kept in the best possible condition?

What do we know through each of our senses which we could not find out in any other way?

What kind of senses is the person who uses liquors or tobacco likely to have?

Name six ways in which tobacco hurts those who chew or smoke?

Why are boys who smoke cigarettes usually shorter and smaller than those who do not?

How do we know that alcohol and tobacco have the power to hurt the brain and nerves?

Authoritative Quotations.

Alcohol has been considered a stimulant, but its chief and in many directions its only rôle is that of a paralyzer. Its long-continued action has been found to cause degeneration of tissue and to shorten life.—[British Medical Review.

In a number of experiments carried out with the idea of ascertaining the effect of alcohol upon muscular force, it was found that in every case where alcohol was taken, muscular force was diminished, even where so small an amount as one-half dram of alcohol was used.—Charles E. Stewart, M.D.

Drug poisoning from alcohol, opium and other narcotics most clearly affects the nutrition, and in all cases is followed by veritable starvation and failure to assimilate the food required. The use of tea, coffee and wines in early life is a starting point for both degeneration and inebriety later.—[Journal American Medical Association.

"God's angels drop like roses fair,
Our duties midst life's shining sands."

Alcohol supplies no nourishment, but impairs the taste for food.—[British Medical Review.

When people drink spirits often, or when they drink too much beer or wine, they are much more liable to disease, and when they become sick the sickness is more severe and is often complicated with fatal delirium.—Dr. Legendre.

In its action on the living body, alcohol deranges the constitution of the blood; unduly excites the heart and respiration; paralyzes the minute blood vessels.—Sir B. W. Richardson, M.D., F.R.S.

The first thing that alcohol does in ninety-nine cases out of a hundred is to affect the mental working of the brain of the man who imbibes.—James Phillips, M.R.C.S., L.R.C.P.

Alcohol produces paralysis of will-control of mental functions in order from the highest to the lowest. Doses of half an ounce or less of alcohol are sufficient to injure the highest faculties of the mind.—[British Medical Journal.

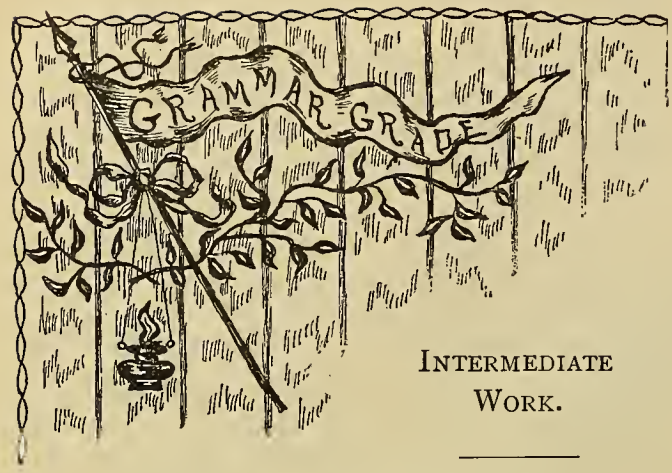
The senses are deadened by even small doses of alcohol. The mental functions also are clearly diminished; that is, they are made slower, the number of mistakes made is increased, and the power of concentration, reflection, the association of ideas, the memory and logic are lessened.—[British Medical Review.

Cigarettes Stunt and Prevent Growth.

A prominent physician of San Francisco says: "Beyond a question the boy who smokes cigarettes stunts his growth and wrecks his nerves long before he reaches his manhood." Tobacco is doing more mischief to the physical condition of our people than anything else.—R. W. Pease, M.D.

The whole nervous system is affected to some extent by even moderate doses of nicotine. This may be seen by its effect upon the pupil of the eye, where there is temporary dilation, followed by prolonged contraction of the pupil.—J. W. Seaver, A.M., M.D.

The finer the quality of the weed, the more marked the effect upon the nervous system. It is generally believed that chewing is worse than smoking, and the pipe worse than the cigar. The cigarette is deadly from the large number used and from the habit of swallowing the smoke.—L. D. White, M.D.



INTERMEDIATE WORK.

REVIEW OF THE YEAR.

WHILE the work of the primary teacher must be largely directed toward the individual side of her pupils, — training each little life to act stoutly and independently, those in charge of more advanced grades must emphasize the social responsibilities and obligations which devolve upon every one. Boys and girls should know that they are indebted to the state for their education, and that in return they owe their richest powers of body and mind to her service. Patriotism is a duty as well as a privilege, and every pupil in our public schools should be taught to regard it as such, and to measure his life by this high standard. The youth who realizes that his country expects much of him, will have the best of reasons for keeping his brain unclouded by narcotics, and for abstaining from every vice.

In reviewing the physiology work for the year with intermediate classes, we suggest that the body as a whole be taken up; first from the standpoint of its external parts, then of the internal organs. These closing lessons should emphasize only essentials; the function of each part, and its relation to the whole body, the highest degree of excellence it can be made to attain, and ways and means of reaching this goal.

As final work upon the poisonous effects exerted by narcotics upon the human system such questions may be used as are suggested below. These will be found to be fully answered in the quotations from physicians and scientific leaders of thought included in this lesson.

FOURTH YEAR WORK.

How do we know that even small quantities of alcoholic liquors are harmful?

What is the greatest danger in the use of alcoholic beverages?

Why are drinks containing alcohol especially injurious to children?

Why are beer, wine, and cider harmful to the drinker?

What parts of the body are unharmed by alcohol?

Does alcohol help the heart in its work?

Why do people who have been drinking think they can do more work and better work than before? Are they right?

How does intemperance affect the senses?

How does nicotine hurt the eye?

Why does the use of tobacco stunt growth?

What kinds of work do we do with the brain?

How can we help it grow and keep it in a healthy condition?

In what ways does alcohol injure the brain?

How does alcohol differ from food substances?

Does alcohol make people stronger or healthier?

AUTHORITATIVE QUOTATIONS.

The mistaken idea that small quantities of alcohol are harmless, permits men to drink beer and stronger drink without question, yet a scientific study and measurement of the senses and functional activity of the body shows that twenty drops of alcohol interferes with the normal activity, and is manifest in the diminution of the sense acuteness and brain activity. Alcohol also obscures the color sense. — T. D. CROTHERS, M.D.

If taken daily for a considerable length of time, alcohol invariably creates a morbid appetite or craving for steadily increasing quantities, and sooner or later establishes degenerative changes in nearly all the organized structures of the body. — N. S. DAVIS, M.D., LL.D.

It is now generally recognized that children should never take alcohol, which, according to the highest authorities, exerts an exceedingly deleterious action on rapidly growing tissues, interfering with their nutrition, and preventing the development of their proper function. — G. SIMS WOODHEAD, M.D.

Alcohol, even when diluted as in wine, beer, and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration. — AUGUST FOREL, M.D.

There is not one single tissue or organ in the body which is not damaged by the habitual use of alcohol. — A. E. T. LONGHURST, M.D.

While alcohol apparently increases the force and volume of the heart's action, the irregular tracings of the sphygmograph show that the real vital force has been diminished, and hence its apparently stimulating power is deceptive. — I. N. QUIMBY, M.D.

The exhilarating effects of alcohol, momentary as they are, only result from local irritation with reflex radiation, and in reality the charac-

teristic action of alcohol is depressant and narcotic. — E. Destrée, M.D.

Disturbances in the sense organs can give rise to hallucinations; there is a trembling in hands, face, lips, and tongue. In short, there is a gradual mental and bodily degeneration which in time leads to imbecility and finally to death. If this be the result of intemperance, are not those the wisest who abstain entirely from the use of alcohol. — [Journal of Hygiene.

Long-continued indulgence in alcohol produces sensory disturbances; loss of vision, loss of pupillary reflexes, subjective noises (ringing and tingling). — Heinrich Stern, Ph.D., M.D.

Nicotine is peculiarly a brain poison. The effects of tobacco on heart and lungs are properly emphasized, but the worst results are in the brain. The keener the intellect, the brighter the thought, and the more sensitive the genius, so much the more sadly and permanently does the narcotic weaken intellect and degrade thought. — A. F. Chase, Prin. Bucksport Seminary.

Shortly after alcohol is taken into the system, a feeling of warmth is experienced; this sensation is not, however, due to any increase in the body temperature, but rather to a decrease, due to the fact that the peripheral blood vessels become dilated, more blood flowing to the surface, where it rapidly cools, thereby causing a diminution of the body temperature. This dilation of the blood vessels is due to the paralyzing effect of the alcohol upon the nerves supplying these vessels. — Chas. E. Stewart, M.D.

Alcohol paralyzes rather than stimulates the blood vessels. By its action on the blood cells it checks oxidation, and limits the power of absorbing oxygen and eliminating carbon dioxid. —J. H. Kellogg, M.D.

Alcohol is found to derange the constitution of the blood, paralyze the minute blood vessels, and excite the heart and respiration. Alcohol lowers the temperature of the body. It breaks up normal functional activity, and encourages degeneration. These are facts which can be demonstrated beyond question. — T. D. Crothers, M.D.

All forms of irritation of the kidneys and urinary passages are usually aggravated by the use of alcohol. Even healthy kidneys are irritated by moderate doses of alcohol.—Prof. Binz of Bonn.

Alcohol produces hypertrophy of the kidneys, thereby causing an altered amount of secretion of urea and other normal constituents of the urine, which in turn tends to produce headaches and neuralgia.—I. N. Quimby, M.D.

Alcohol produces fatty degeneration of the different organs by diminishing the amount of oxygen taken up and of carbonic acid excreted. —J. H. Kellogg, M.D.

The amount of work done is never increased by alcohol, as any temporary excitement is invariably followed by depression of such nature, that the increase of work supposed to be done during the period of excitation is far more than counterbalanced by the diminution in the amount of work done during the period of depression. — G. Sims Woodhead, M.D.

The principal action of alcohol is to blunt sensation, and to remove what we may call the power of inhibition by blunting the higher centers in the brain. — G. Sims Woodhead, M.D.

Both the carbonaceous and nitrogenous elements of foods furnish material for tissue growth and repair, and the animal heat is the result of molecular changes constantly taking place in the tissues; while the presence of alcohol promotes neither tissue repair nor heat evolution, but retards both. — N. S. Davis, M.D., LL.D.

Anaemia is a constant accompaniment of chronic nicotine poisoning, but this is due to the disastrous results of the poison upon the digestive system, which does not prepare abundant nutriment for the blood current, and the anaemia should therefore be referred to starvation rather than to corpuscular degeneration. — J. W. Seaver, A.M., M.D.

FIFTH AND SIXTH YEAR WORK.

Is beer a nutritious drink?

What proof have we that alcohol is not a stimulant, but a narcotic poison?

Why is it harmful to drink a glass of beer or wine occasionally?

What is the action of alcohol upon the tissues and organs of the body?

Why are drinking people slower in thought and action than total abstainers?

How does nicotine injure the nervous tissue?

Why is the use of alcohol no protection against cold when one feels warmer after it has been taken into the system?

Does alcohol help or hinder the blood in its work of absorbing oxygen and throwing off waste matter?

How does alcohol injure the kidneys and hinder them from doing their important work?

Why can one accomplish more without the aid of alcohol than with it?

AUTHORITATIVE QUOTATIONS.

A saloon keeper in England advertised his beer as liquid bread. A member of the English Parliament bought a quart and paid a

chemist fifteen dollars to examine it. Two per cent., about a thimbleful, was really food. Five per cent. was alcohol, and the remaining ninety-three per cent. water. The saloon keeper was arrested under the food act.—[Journal of Inebriety.

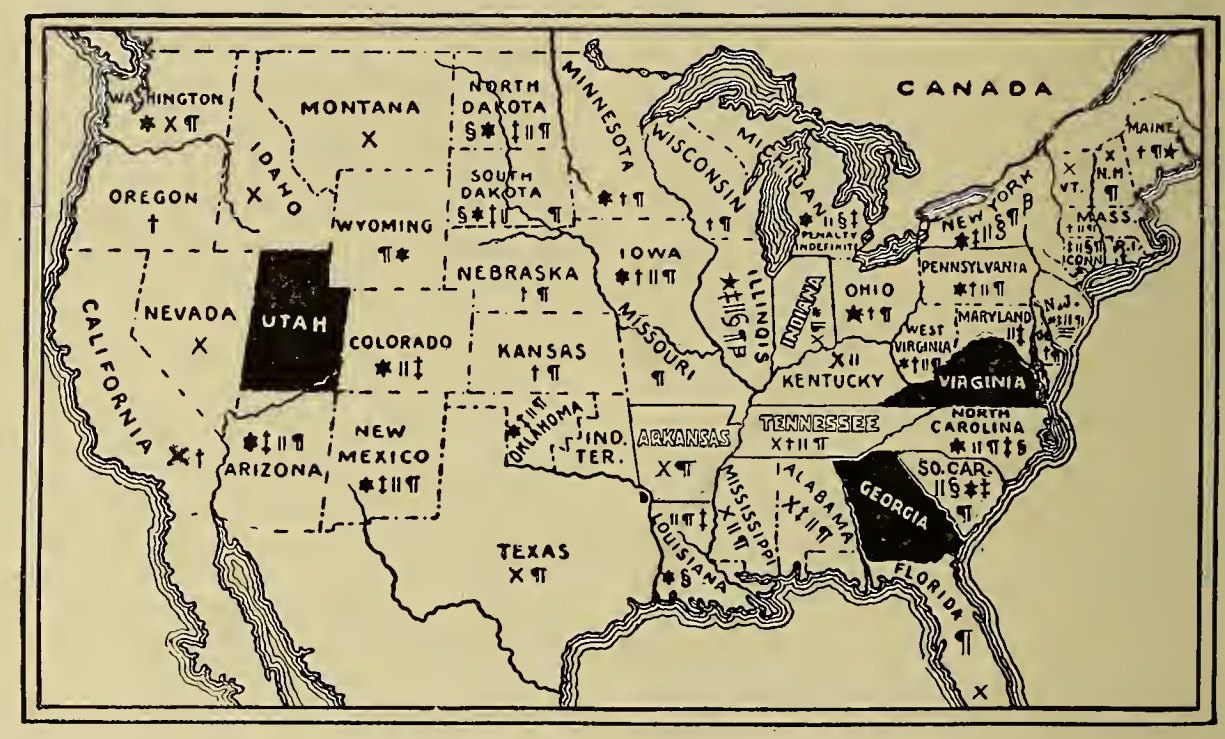
All carefully conducted investigations show that alcohol, instead of being a stimulant, a restorative, a heart tonic, or an indirect food, is a direct sedative, diminishing all the molecular changes in living matter, and paralyzing the functions of both brain and nerves in direct proportion to the quantity taken.—N. S. Davis, M.D., LL.D.

There is absolutely no moderate use of spirits that is not injurious. Many moderate drinkers are physiologically inebriates, and suffer from defects and degenerations of the brain and nervous system that are referred to other causes. They are more prominently diseased than others who become intoxicated often from excess of spirits.—[Journal of Inebriety.

Alcohol spares no organ of the economy, but predisposes all of them to disease.—Professor Debove.

Alcohol in small quantities diminishes the rapidity of thought. This can be measured in seconds and parts of seconds. The process of realizing and knowing the fact, and of acting from this knowledge, is measurable, and the difference in time in health, and after the use of alcohol, is often several seconds and more, and this is time enough to avert or to precipitate an accident.—T. D. Crothers, M.D.

Alcohol paralyzes the intellect, the sensations and the will; but shows the contrary delusively to the dimmed consciousness. It paralyzes the perception of cold as well as that of warmth, therefore it seems to raise our temperature in cold weather and to reduce it in warm weather. Really it withdraws from the body heat and force and paralyzes its activities, the basis of its life.—[Medical Pioneer.



TEMPERANCE EDUCATION MAP OF THE UNITED STATES AND TERRITORIES.

States in White have a Temperance Education Law. Those in Black have NONE.

Explanation of Marks.—× The cross signifies that Scientific Temperance is a mandatory study in public schools.

* The star signifies that this is a mandatory study and that a penalty is attached to the inforcing clause of this statute in the State or Territory to which it is affixed.

† The dagger signifies that the study is not only mandatory but is required of all pupils in all schools.

‡ The double dagger signifies that the study is required of all pupils in all schools and is to be pursued with text books in the hands of pupils able to read.

‖ The parallel indicates that the study is to be taught in the same manner and as thoroughly as other required branches.

§ The section mark indicates that text books on this topic used in primary and intermediate schools must give one-fourth or one-fifth their space to temperance matter, and those used in high schools not less than twenty pages.

¶ The paragraph indicates that no teacher who has not passed a satisfactory examination in this subject is granted a certificate or authorized to teach.

〓 Three lines indicate that text books on this topic shall give full and adequate space to the temperance matter.

β The beta signifies that a definite number of lessons for each school year has been made compulsory.

There are 16,000,000 children of school age in the United States under Temperance Education Laws.

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THE STAR OF HOPE.

IT is a profound remark of that distinguished specialist, Mrs. Mary H. Hunt, that the star of hope for the temperance cause hangs over the schoolhouse. Whoever would see how far the light of that star extends should look at the most suggestive map on the opposite page. The white spaces indicate the regions through which compulsory instruction in the latest truths of science concerning alcohol and other narcotics has now been spread in our schools by the authority of state and nation. When Mr. Stanley was about to deliver one of his famous lectures there hung behind him two maps of the Dark Continent, one exhibiting its condition before Mr. Livingstone began his explorations, and the other a map of the latest dates. In his first sentence Mr. Stanley, turning with a very quiet and unostentatious gesture toward the maps, said simply that they exhibited the contrast between Africa unexplored and explored. An educational map of the United States of only eighteen years ago and one of to-day shows a similar contrast. In regard to scientific instruction in temperance in the common schools, a chart of our states in 1881 would have been a representation of a dark continent. To-day such a map exhibits the illumination of the whole breadth of the foremost Christian republic of all time. [Step by step the advance has been gained and now forty-two states give compulsory scientific temperance instruction, the forty-second being Arkansas, which was gained during this winter of 1899.] The national government makes the same requirement throughout the entire range of its authority in the district of Columbia and in all the territories and naval and military schools. The lady who, aided by the multitudinous branches of the National Woman's Christian Temperance Union, and yet chiefly at her own charges, the quiet unobtrusive lady who has conquered the legislatures of forty-two states and Congress itself, the lady who has accomplished the impossible, I call the feminine Stanley of the dark continent of the temperance cause.

Responsibility rests upon American citizens to quicken the efforts for the temperance education of the generation now rising to political power, and to do everything possible to strengthen those who in the heat and burden of the day are pushing this reform of compulsory temperance instruction from Plymouth Rock to the Golden Gate, and from the Lakes southward to the Gulf.

The great majority of the future voters of this nation are now in schools into which by the blessing of Providence compulsory temperance instruction has been introduced. There is no way of bringing temperance sentiment up to the proper level except by beginning at the beginning, that is, in the common schools. The hope of the future in the temperance reform, as well as in every other moral reform, is in the children. Therefore I congratulate you, I congratulate Mrs. Hunt, I congratulate the Woman's Christian Temperance Union on the effect which this educational measure is to have on legal enactments in time to come. — REV. JOSEPH COOK, D.D., LL.D., in Boston Monday Lectures.

FIVE FOUNDATION FACTS.

CERTAIN fundamental facts underlie every special science — facts which are essential to the comprehension and development of that science. For instance, the four ground rules of arithmetic — addition, subtraction, multiplication, and division — are the foundation of the science of mathematics, and are an essential part of its progressive and highest development.

The five foundation facts of the science of temperance are :

(1) Alcohol is a poison.

(2) It is a narcotic poison.

(3) Alcohol, like all other narcotics, has the power, when taken frequently, even in small quantities, to create a diseased appetite for more, which may become uncontrollable and destructive.

(4) Alcohol is the product of a fermentation that changes a food to a poison.

(5) Fermentation changes entirely the character of the substances it works upon.

The indorsed text books teach the above facts and the principles of general hygiene, with enough physiology to make the hygiene intelligible. These truths, as presented in the indorsed text books, are adapted to all grades of pupils found in the public schools.

THE SCHOOL PHYSIOLOGY JOURNAL shows the teacher how to teach the subject and how best to use the text books.

High School AND Advanced Grammar Grades.

REVIEW LESSON.

A GREAT artist once unconsciously revealed the secret of his power. A visitor to his studio had asked him to point out the picture dearest to his heart, and without a glance at the finished products of his skill which filled the room he replied, "The one I am going to paint next."

The true teacher likewise looks ever forward and not back, wasting no time in useless regrets or in self-congratulation, but devoting all the energies of her nature to future attainment. The only retrospect in which she indulges is that keen glance over past endeavor which shall enable her to plan and execute more successfully the next undertaking. Such a moment comes just before the close of the school year when the physiology teacher asks herself the questions: "Have my pupils gotten the utmost from this year's work? Have they acquired such knowledge of health laws and such reverence for the temple of the soul as will keep them strong and robust and pure? How can I best emphasize the work of the foregoing weeks in the few days that remain?"

Now is the time to coördinate topics; to link into one unbroken chain the successive lessons of the term, to show how the various organs of the body properly developed and cared for make up the harmonious whole, and how no part can be neglected or harmed without a corresponding decrease in achieving ability.

Put a few inclusive questions on the board and base all review lessons on these fundamentals. The work of the nervous system may be made the keynote. If so, ask

What parts of the body are under the control of brain and nerves?

How are these organs nourished and fitted to do their work?

What connection has the nervous system with the work of each of the other organs of the body?

How is the nervous system injured by the use of narcotics.

What effects do such injuries produce in the physical and moral life of the individual?

A very little study of these questions will suffice to show that a complete review of the nervous system includes the history of the entire individual. Make it such, and emphasize the thought, that because of this intimate relationship, neither body, mind nor soul can be neglected or tampered with, but one and all must be consecrated to the highest endeavor and the holiest living.

AUTHORITATIVE QUOTATIONS.

Alcohol Destroys Cell Life.

The action of alcohol on the primary cells of tissues is simply that of a protoplasmic or tissue poison, like opium.—Capt. P. W. O'Gorman, D.P.H. Cantab.

Alcohol, diluted with water and taken into the stomach, is rapidly absorbed by the capillaries, and is conveyed in the blood to every tissue of the body. By its presence it retards the natural metabolic changes, lessens the processes of oxidation and elimination, diminishes nerve sensibility, and when repeated from day to day, induces cell and tissue degenerations. — N. S. Davis, M.D., LL.D.

Alcohol Shortens Life.

Life is considerably shortened by the use of alcohol in large quantities. But a moderate consumption of the same also shortens life by an average of five to six years.—August Forel, M.D.

Mortality of Moderate Drinkers.

I have known many persons destroyed by ardent spirits who were never completely intoxicated during the whole course of their life. —Benjamin Rush, M.D.

Habitual moderate drinkers of alcoholic liquor give a much higher ratio of mortality when attacked with cholera, continued fever, pneumonia, influenza, or almost any other acute disease, than the total abstainers.—N. S. Davis, M.D., LL.D.

Hereditary Effects of Alcohol.

At least one out of three children born to drinking parents will be idiotic, imbecile or insane.—E. C. Mann, M.D., F.S.S.

Alcohol Retards Growth.

In general, retardation of growth is directly proportional to the amount of alcohol taken.—C. H. Hodge, Ph.D.

Alcohol Prevents Elimination of Waste Matter.

Alcohol diminishes the excretion of proteid substances from the body in the excretions, and

it was from this fact that the conclusion was drawn that alcohol acted as a food; but instead of diminishing the amount of tissue disintegration, it simply prevents the elimination of the waste products. These being retained in the body embarrass all the vital processes, and give rise to degenerative changes in the abdominal viscera and other organs. As a result, we have "hob-nailed" liver and chronic Bright's disease. — CHAS. E. STEWART, M.D.

ALCOHOL A PARALYZER.

Alcohol is a corrugator and paralyzer of the living tissue, as well as a narcotic poison. After using such a narcotic a person is more depressed than ever, and therefore is more inclined to repeat and increase the dose. This is the unsuspected pitfall into which thousands of the unwary plunge.—I. N. QUIMBY, M.D.

EFFECTS OF ONE OUNCE OF ALCOHOL.

Experiments shows that after one ounce of alcohol has been taken internally, nerve activity is diminished, cerebral activity is diminished, the coördinating power of the brain is impaired, muscular strength is lessened, and digestive activity is greatly decreased.—J. H. KELLOGG, M.D.

ALCOHOL A CAUSE OF INSANITY.

Not alone in directly producing disease and predisposing the body to the attacks of disease, does alcohol work harm in the body, it is also largely responsible for insanity.—PROFESSOR DEBOVE.

ALCOHOL ATTACKS HIGHER NERVE CENTRES.

Measurements of the senses before and after the use of alcohol show that alcohol in one-ounce doses visibly depresses and lowers sense acuteness and activity. The rapidity of thought, the clearness of memory, the capacity to reason, the power of control by the will, are measurable by instruments, and all are found to be lowered and palsied by alcohol.—[Journal of Inebriety.

The brain has an affinity for alcohol which no other organ possesses, and this condition pervades the entire nervous system, and produces a complete prostration of its highest and most important functions. Hence, the mind is impaired, the will of the individual destroyed, and at last the victim of this malady becomes a wandering maniac.—C. H. SHEPARD, M.D.

ALCOHOL NO PREVENTIVE AGAINST COLD.

Alcohol, instead of stimulating the heat-regulating centres of the body, paralyzes them, in reality hastening death from cold rather than preventing it.—CHAS. E. STEWART, M.D.

ALCOHOL POISONS THE VITAL ORGANS.

Long continued indulgence in alcohol produces fatty degeneration of blood vessels, heart, liver, and kidneys.— HEINRICH STERN, M.D., Ph.D.

ALCOHOL CAUSES KIDNEY DISEASE.

The kidneys are among the most important organs of the body, as they separate from the blood the products of disease and worn out material. This organ is frequently overworked by the consumption of alcoholic beverages, thereby losing its power of separating deleterious substances from the blood. In consequence the kidneys become diseased.—[Dietetic and Hygienic Gazette.

TOBACCO HINDERS DIGESTION.

The ordinary use of the drug must be extremely destructive to the digestive process. —J. W. SEAVER, A.M., M.D.

TOBACCO DESTROYS ABILITY.

I have known students in nearly every class in college, whose nerves were unstrung, whose power of persistent effort was destroyed, and aspirations for a life of usefulness were dulled and deadened as a direct result of constant and excessive smoking.—W. D. HYDE, Pres. Bowdoin College.

TOBACCO LOWERS WORKING POWER.

Even moderate amounts of tobacco in the form of smoke lower the working power of the human muscle by a high percentage.—J. W. SEAVER, A.M., M.D.

"The kind of motives that control your will, indicates the quality of your character."

AMERICAN CIVILIZATION.

X. Our Composite Nation.

"We be many hands in labor,
But one arm for the right;
One blood to shed, one heart till dead,
One good sword for the fight.
We be many-tongued and minded,
But one mind and one tongue
When once wide-sent through a continent
The nation's word has rung."

IN spite of the widely different elements in his heredity, and the infinite varieties of climate under which he may be reared, the American of the present day is a distinct type;

. . . "the elements
So mixed in him that Nature might stand up,
And say to all the world, 'This is a man.'"

He wears his nationality as a badge upon his forehead, easily read in any civilized land. The distinguishing traits are not wholly physical. Americans may have the squarely built robustness of German or Dutch parents, or the dark skin and limpid eyes of some Romance ancestor, or the tall, willowy figure of a Gibson drawing, but above all and through all they are Americans.

If less graceful in manner than the European, the American can not be outdone by him in genuine courtesy. He extends a brotherly helpfulness to all who turn to him for aid.

"On the hospitable soil of America all types of character, all varieties of temperament have flourished side by side, and have interacted upon one another until there has been evolved a race of men in the highest degree original and enterprising, plastic and cosmopolitan."

The native born American has a fine sense of justice, and a broad knowledge of men and things. He recognizes no class distinctions. He is energetic, ambitious, excitable and extreme. He is usually inspired by what a writer in the Atlantic wittily calls "that eager inquisitiveness, which leads him to saturate his soul in all the infinite futility of his daily newspaper." He honors women, and treats them, not as angels or serfs, but as equals; "not like to like, but like in difference."

He is fond of peace and order. He understands and believes in the principles of a republican government. Public opinion is his only recognized sovereign. This acquiescence to the will of the majority is one of his most striking characteristics. To-day with passionate fervor he depicts the financial and industrial ruin which will attend the election of a certain candidate; to-morrow—after the election—he goes about his business with the most philosophic calm. The man is in office. The majority elected him. What more is there to say?

The American is intensely optimistic. Blandly and blindly so his critics think. He believes in the future of the nation that has already achieved so much, and new obstacles do not dismay him.

It is often claimed that the isolation of this continent has rendered its people provincial—a strange inference when one reflects that like their British cousins Americans are especially fond of travel in other lands, and that the United States has been the gathering place of all nations. There is perhaps no country in the world where every race and nation of the human family is so fully represented as in America. Here the descendants of Shem, Ham and Japheth, the red, black and white men, meet face to face. The remotest branches of these three great divisions, from every nation under the sun have here united to form a great commonwealth. To borrow the figure of Prof. Boysen, "we have ground alien grain in the national hopper." A new race has appeared, into which all the qualities and customs of Christendom have been welded, and it is crowned by an individuality accounted for by none of them. Carl Schurz calls the United States "that great colony of free humanity which has not old England but the world for its mother country." Actual contact with many nationalities instead of making a people provincial gives superior advantages.

But the intellect of the American after all has grown confused in contemplating his vast prairies, broad navigable rivers, and fertile valleys; his mines and harbors and limitless resources. He is persuaded that things outside of America are well enough perhaps, but behind the times. Ease and luxury of living, science, commerce, inventions, the industrial arts, reforms, are at their height in America, and Europe, he fancies, is asleep on her laurels. Glowing with youth and health and potential energy, his eager spirit is chafed by the deliberateness of older nations. He forgets that years bring a dignity and experience all their own; that Europe is enjoying the fruits of a culture the new world has never had time to develop; and that the habits of thrift and patient industry of European laborers have played a leading part in his own brief national drama.

Service is apt to beget love, and a government of the people naturally fosters patriotism. Nearly every generation in this country up to the present has fought to preserve American liberties, and the heroism of American soldiers is grandly seconded by the loyalty of American civilians. "Robust heroism, that is the term; not the brute frenzy which comes from ignorance of danger, nor the wild rage born of desperation. The American fighter, be he soldier or sailor, respects his body and realizes that he has a soul."

It is as difficult to trace the debt the nation owes to the elements in its population as to

attribute a child's different characteristics to one or the other parent.

Primarily those four adventurous nations, the Spanish, English, Dutch and French who discovered and explored this continent, are responsible for the existence of nineteenth century America. Their dauntless courage hastened the work as much as did the hand labor of the multitudes of immigrants in the present century who have built our railways and paved our thoroughfares.

Practically up to the nineteenth century the incomers were colonists. From the upper classes in their home lands, independent citizens who thought for themselves and were actuated by high motives, they were willing to endure hardship and bitter poverty for the sake of laying the foundations of a newer and broader civilization.

Such were the Dutch of New York, the English, the French Huguenots, and the Scotch-Irish. A writer in the Catholic World says: "The founders of this government were essentially a religious people. The Catholics of Maryland, the Puritans of New England, the Virginia Episcopalians, and the Pennsylvania Quakers feared God and reverenced his laws as far as they understood them." To the colonists of the early days the American citizen of this age owes his noblest qualities.

"Not the least interesting circumstance connected with the discovery of this broad continent is the fact that the struggle for the possession of it revealed the superior vitality of institutions and methods that first came to maturity in England and now seem destined to shape the future of the world."

The stern moral fibre of the nation in its early days; the simplicity fostered by hardship and peril; the stress laid upon education, so necessary in a government by the people; the fabric of our constitution, and the language of the country were England's indisputable contribution. "Of all migrations of peoples the settlement of New England was preëminently the one in which the almightly dollar played the smallest part, however important it may since have become as a motive power."

While the Dutch settlers infused into the nation's blood a new commercial spirit and a broader religious tolerance, and emphasized the homely domestic virtues, the Scotch-Irish added a dash of wit, and the more showy accomplishments of oratory and statecraft.

At the beginning of the present century conditions of life in this country had grown easier. Coming to America no longer meant danger and bloodshed and privation. There was now no room for colonists. The federal government was established and it was prospective citizens who were welcomed. From that time immigration set in. The overflow of middle and southern Europe crowded the portals of the new world until in 1882, when the great influx of Russian Jews occurred, the number exceeded 700,000 annually. As the vast majority of them were from the lowest peasant class their value to the nation was measured almost entirely by the brawn of their muscles.

* FOREIGN IMMIGRANTS (From Life.)

IRISHMAN. SWEDE. GERMAN. ITALIAN. RUSSIAN. CHINAMAN.

"Brothers! to keep for freedom's sake
The flag of stars unfurled
Beneath the stars of heaven—to make
The star-light of the world!"

"By reason of this incoming our almost limitless resources are being developed; forests have been leveled, railroads built, canals dug; whole cities have sprung up, and the wilderness has been made to blossom and fields to groan with the weight of grain to feed not only our own vast population, but to supply a large surplus to the toilers across the sea."

Without foreign labor the great public works of the United States would have been retarded at least a quarter of a century.

But from this lowest stratum the records of pauperism, insanity and crime have been swelled, and old world problems of vice and degradation have been forced upon the country in the flush of its young manhood. On the other hand, some have come in recent years who were not peasants, and who have given their brilliant best to their adopted land. Foreigners have contributed artistic, literary, scientific, commercial and industrial advantages to the country. Jacob A. Riis was an emigrant boy, Agassiz, Astor, Girard, were all foreign born.

"Andrew Carnegie, a poor Scotch lad who came to this country a little more than forty years ago, has donated millions to found institutions for the education and refinement of his adopted countrymen."

The immigrants of one nation have vied with

* Courtesy of D. C. Heath & Co.

those of another in devotion to the stars and stripes. In a speech at a great mass meeting in Union Square, New York, just after the civil war was declared, an Irishman said:

"Fellow citizens, all through Europe, when down-trodden men look up and seek for some sign of hope, where do they look but to that flag, the flag of our Union. It must not be allowed to trail in the dust, though the hand that held it down is a brother's."

A German, speaking at the same meeting, said:

"We have got in this country that freedom for which we have fought in vain on the other side of the Atlantic ocean, and we will show that we are worthy of this new fatherland by defending its rights."

Gov. Roosevelt in his story of the Rough Riders tells of a Spanish captain in his regiment who begged to go into actual service in Cuba. The historian says:

"The captain's people had been on the banks of the Rio Grande before my forefathers came to the mouth of the Hudson or Col. Wood's landed at Plymouth; and he demanded the privilege of proving that his people were precisely as loyal Americans as any others. I was glad when it was decided to take him."

Mr. Brodhead remarked in an address delivered some time ago:

"Providence never meant our great country to perpetuate the ideas of only one nationality in the old world. There was a fatherland as fruitful as the motherland. Sweden, Holland, Germany, Savoy, Spain, France, Scotland, and Ireland all coöperated in peopling our territory, moulding our institutions, and in creating our vast and diversified nation, one and indivisible. To its heterogeneousness, and not to its supposed homogeneousness, to its collisions and its comminglings of races, to its compromises and its concessions, does this country owe its grandest moral, social, and political character."

As to what the future holds for the nation, of triumph or defeat, of prosperity or peril, who can say? The issues before us are momentous. An educated political judgment and absolute moral integrity on the part of the whole people are our only reliance. If we judge of the future by the past we can not but be hopeful, though deeply solicitous. What loyal American does not echo the words of Prof. White:

"I believe that the great currents of life in this republic are sound. There are indeed many things that trouble and disgust us. . . . Every great seething, boiling cauldron throws to the surface the worst that is in it, and almost all that we see is the scum upon its surface . . . . but down beneath the surface of this boiling, bubbling, seething American life, is a vast mass of noble endeavor, of earnest purpose, of determined effort for good."

MABEL MCDUFFEE.

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This issue of the JOURNAL completes volume eight of its publication. No numbers are issued during July and August, but this office is open during that time for the receipt of subscriptions. Please notify us as early as possible of any change in address. All renewals and lists of new subscribers should be in our hands by the middle of August in order that the September number may be issued promptly.

PHYSIOLOGY TOPICS FOR JUNE.

PRIMARY — Review of alcoholic drinks and tobacco. General review of the year's work.

INTERMEDIATE — Review food; digestion; frame-work of the body. Review all sixth grade topics and work of the year.

ADVANCED — Review bones; cell life and growth. Review year's work.

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